

Present Value of Future Cost

Folder: Parker Landfill

Project Name: Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Report Option: Fiscal

Initial Phase Element Start Date: 2/1/2004

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Fiscal Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cost Type	Description																
Studies	Pre-Design Investigation	\$ 385,481															
Remedial Design	Design	\$ 1,252,247															
Remedial Action	Advanced Oxidation Processes	\$ 304,862															
Remedial Action	Carbon Adsorption (Gas)	\$ 27,479															
Remedial Action	Carbon Adsorption (Liquid)	\$ 53,371															
Remedial Action	Coagulation/Flocculation	\$ 4,491															
Remedial Action	Discharge to POTW	\$ 30,804															
Remedial Action	Groundwater Monitoring Well	\$ 78,076															
Remedial Action	Groundwater Extraction Wells	\$ 106,710															
Remedial Action	Media Filtration	\$ 73,466															
Remedial Action	Miscellaneous Field Installation	\$ 63,254															
Remedial Action	Metals Precipitation	\$ 122,625															
Remedial Action	Metals Precipitation	\$ 154,626															
Remedial Action	Overhead Electrical Distribution	\$ 15,189															
Remedial Action	Off-site Transportation and Waste Disposal	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700
Remedial Action	Professional Labor Management	\$ 3,291,176															
Remedial Action	ION EXCHANGE	\$ 641,230															
Remedial Action	Residual Waste Management	\$ 4,047															
Long Term Monitoring	GW Monitoring	\$ 101,925	\$ 152,811	\$ 152,811	\$ 152,811	\$ 152,811	\$ 131,091	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247
Long Term Monitoring	5 YR Review Year 05						\$ 32,680										
Long Term Monitoring	5 YR Review Year 10											\$ 32,680					
Long Term Monitoring	5 YR Review Year 15																\$ 32,680
Long Term Monitoring	5 YR Review Year 20																
Long Term Monitoring	5 YR Review Year 25																
Long Term Monitoring	5 YR Review Year 30																
O&M	Miscellaneous Support Costs	\$ 924,581	\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425	\$ 871,501	\$ 984,128	\$ 871,501			\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425
O&M	Groundwater Extraction Wells	\$ 9,399	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112
O&M	Media Filtration	\$ 17,948	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768
O&M	Carbon Adsorption (Liquid)	\$ 27,244	\$ 44,550	\$ 39,778	\$ 36,392	\$ 35,083	\$ 34,375	\$ 33,929	\$ 33,621	\$ 33,396	\$ 33,223	\$ 33,087	\$ 32,977	\$ 32,886	\$ 32,810	\$ 32,745	\$ 32,689
O&M	Coagulation/Flocculation	\$ 33,925	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157
O&M	Metals Precipitation	\$ 40,860	\$ 63,478	\$ 48,938	\$ 38,619	\$ 34,632	\$ 32,475	\$ 31,114	\$ 30,178	\$ 29,490	\$ 28,965	\$ 28,550	\$ 28,215	\$ 27,938	\$ 27,705	\$ 27,506	\$ 27,335
O&M	Metals Precipitation	\$ 90,818	\$ 150,585	\$ 140,044	\$ 132,564	\$ 129,674	\$ 128,110	\$ 127,124	\$ 126,444	\$ 125,946	\$ 125,566	\$ 125,266	\$ 125,022	\$ 124,822	\$ 124,653	\$ 124,509	\$ 124,385
O&M	Advanced Oxidation Processes	\$ 381,910	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703
O&M	Carbon Adsorption (Gas)	\$ 30,096	\$ 49,201	\$ 43,903	\$ 40,144	\$ 38,692	\$ 37,906	\$ 37,410	\$ 37,068	\$ 36,818	\$ 36,627	\$ 36,476	\$ 36,354	\$ 36,253	\$ 36,168	\$ 36,096	\$ 36,033
O&M	Discharge to POTW	\$ 3,647	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252
Site Close-out	Site Closeout																
Sub-Total		\$ 8,424,007	\$ 2,250,815	\$ 2,328,294	\$ 2,190,723	\$ 1,309,584	\$ 1,454,754	\$ 2,140,017	\$ 2,250,376	\$ 2,136,090	\$ 1,263,320	\$ 1,294,998	\$ 2,133,008	\$ 2,244,966	\$ 2,131,778	\$ 1,259,795	\$ 1,431,486
Real Discount	6.95%	0.9363	0.8768	0.8209	0.7687	0.7198	0.6739	0.6311	0.5909	0.5533	0.5181	0.4851	0.4542	0.4253	0.3982	0.3729	0.3491
Nominal Discount	8.70%	0.9200	0.8463	0.7786	0.7163	0.6589	0.6062	0.5577	0.5131	0.4720	0.4342	0.3965	0.3675	0.3381	0.3110	0.2861	0.2632
Inflation	1.75%	1.0178	1.0359	1.0544	1.0732	1.0923	1.1117	1.1315	1.1517	1.1722	1.1931	1.2143	1.2360	1.2580	1.2804	1.3032	1.3264
Total		\$ 7,887,813	\$ 1,973,405	\$ 1,911,400	\$ 1,683,988	\$ 942,590	\$ 980,431	\$ 1,350,482	\$ 1,329,714	\$ 1,181,845	\$ 654,474	\$ 628,183	\$ 968,829	\$ 954,778	\$ 848,930	\$ 469,752	\$ 499,797

Present Value of Future Cost

Folder: Parker Landfill
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 Project ID: Parker Landfill
 Site Name: Alternative 1
 Site Type: Groundwater
 Site ID: Parker Landfill

Year		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Fiscal Year		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Cost Type	Description																Total
Studies	Pre-Design Investigation																\$ 385,481
Remedial Design	Design																\$ 189,500
Remedial Action	Advanced Oxidation Processes																\$ 304,862
Remedial Action	Carbon Adsorption (Gas)																\$ 27,479
Remedial Action	Carbon Adsorption (Liquid)																\$ 53,371
Remedial Action	Coagulation/Flocculation																\$ 4,491
Remedial Action	Discharge to POTW																\$ 30,804
Remedial Action	Groundwater Monitoring Well																\$ 78,076
Remedial Action	Groundwater Extraction Wells																\$ 106,710
Remedial Action	Media Filtration																\$ 73,468
Remedial Action	Miscellaneous Field Installation																\$ 63,254
Remedial Action	Metals Precipitation																\$ 122,625
Remedial Action	Metals Precipitation																\$ 154,626
Remedial Action	Overhead Electrical Distribution																\$ 15,189
Remedial Action	Off-site Transportation and Waste Disposal	\$ 152,700	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 4,580,987
Remedial Action	Professional Labor Management																\$ 3,291,176
Remedial Action	ION EXCHANGE																\$ 641,230
Remedial Action	Residual Waste Management																\$ 4,047
Long Term Monitoring	GW Monitoring	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 114,585	\$ 111,758	\$ 111,758	\$ 111,758	\$ 111,758	\$ 37,215	\$ 3,727,785
Long Term Monitoring	5 YR Review Year 05																\$ 32,680
Long Term Monitoring	5 YR Review Year 10																\$ 32,680
Long Term Monitoring	5 YR Review Year 15																\$ 32,680
Long Term Monitoring	5 YR Review Year 20					\$ 32,680											\$ 32,680
Long Term Monitoring	5 YR Review Year 25										\$ 32,680						\$ 32,680
Long Term Monitoring	5 YR Review Year 30															\$ 32,680	\$ 32,680
O&M	Miscellaneous Support Costs	\$ 871,501	\$ 984,128	\$ 871,501			\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425	\$ 871,501	\$ 984,128	\$ 871,501			\$ 17,705,636
O&M	Groundwater Extraction Wells	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 6,713	\$ 483,360
O&M	Media Filtration	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 12,820	\$ 923,040
O&M	Carbon Adsorption (Liquid)	\$ 32,640	\$ 32,597	\$ 32,559	\$ 32,525	\$ 32,494	\$ 32,467	\$ 32,442	\$ 32,419	\$ 32,398	\$ 32,379	\$ 32,361	\$ 32,345	\$ 32,330	\$ 32,316	\$ 13,462	\$ 1,016,519
O&M	Coagulation/Flocculation	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 24,232	\$ 1,744,710
O&M	Metals Precipitation	\$ 27,188	\$ 27,055	\$ 26,939	\$ 26,835	\$ 26,742	\$ 26,659	\$ 26,582	\$ 26,513	\$ 26,449	\$ 26,391	\$ 26,337	\$ 26,288	\$ 26,242	\$ 26,199	\$ 10,909	\$ 929,322
O&M	Metals Precipitation	\$ 124,277	\$ 124,182	\$ 124,098	\$ 124,023	\$ 123,955	\$ 123,894	\$ 123,839	\$ 123,789	\$ 123,743	\$ 123,700	\$ 123,662	\$ 123,625	\$ 123,592	\$ 123,561	\$ 51,479	\$ 3,810,751
O&M	Advanced Oxidation Processes	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 272,793	\$ 19,641,090
O&M	Carbon Adsorption (Gas)	\$ 35,979	\$ 35,931	\$ 35,889	\$ 35,851	\$ 35,817	\$ 35,787	\$ 35,759	\$ 35,734	\$ 35,711	\$ 35,689	\$ 35,670	\$ 35,652	\$ 35,635	\$ 35,619	\$ 14,839	\$ 1,120,807
O&M	Discharge to POTW	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 2,605	\$ 187,560
Site Close-out	Site Closeout															\$ 201,936	\$ 201,936
Sub-Total		\$ 2,130,522	\$ 2,242,831	\$ 2,129,924	\$ 1,258,172	\$ 1,290,626	\$ 2,126,246	\$ 2,241,688	\$ 2,128,894	\$ 1,257,239	\$ 1,423,540	\$ 2,119,980	\$ 2,232,487	\$ 2,119,749	\$ 1,248,144	\$ 681,683	\$ 61,815,990
Real Discount	6.95%	0.3269	0.3061	0.2866	0.2684	0.2513	0.2353	0.2203	0.2063	0.1932	0.1809	0.1694	0.1586	0.1485	0.1390	0.1302	---
Nominal Discount	8.70%	0.2422	0.2228	0.2049	0.1886	0.1735	0.1598	0.1468	0.1350	0.1242	0.1143	0.1051	0.0967	0.0890	0.0819	0.0753	---
Inflation	1.75%	1.3500	1.3741	1.3986	1.4235	1.4488	1.4745	1.5009	1.5276	1.5548	1.5825	1.6107	1.6394	1.6688	1.6983	1.7286	---
Total		\$ 696,515	\$ 686,560	\$ 610,498	\$ 337,674	\$ 324,337	\$ 501,025	\$ 493,909	\$ 439,201	\$ 242,865	\$ 257,467	\$ 359,050	\$ 354,038	\$ 314,763	\$ 173,541	\$ 88,748	\$ 30,146,602

Site Cost Over Time

Folder: Parker Landfill

Project Name: Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Report Option: Fiscal

Initial Phase Element Start Date: 2/1/2004

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Calendar Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Phase Element	Phase Element Name																
Studies	Pre-Design Investigation	\$ 385,481															
Remedial Design	Design	\$ 1,252,247															
Remedial Action	Advanced Oxidation Processes	\$ 304,882															
Remedial Action	Carbon Adsorption (Gas)	\$ 27,479															
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Remedial Action	Coagulation/Flocculation	\$ 4,491															
Remedial Action	Discharge to POTW	\$ 30,804															
Remedial Action	Groundwater Monitoring Well	\$ 78,076															
Remedial Action	Groundwater Extraction Wells	\$ 106,710															
Remedial Action	Media Filtration	\$ 73,486															
Remedial Action	Miscellaneous Field Installation	\$ 63,254															
Remedial Action	Metals Precipitation	\$ 122,625															
Remedial Action	Metals Precipitation	\$ 154,626															
Remedial Action	Overhead Electrical Distribution	\$ 15,189															
Remedial Action	Off-site Transportation and Waste	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700
Remedial Action	Professional Labor Management	\$ 3,291,176															
Remedial Action	ION EXCHANGE	\$ 641,230															
Remedial Action	Residual Waste Management	\$ 4,047															
Long Term Monitoring	GW Monitoring	\$ 101,925	\$ 152,811	\$ 152,811	\$ 152,811	\$ 152,811	\$ 131,091	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247
Long Term Monitoring	5 YR Review Year 05						\$ 32,680										
Long Term Monitoring	5 YR Review Year 10											\$ 32,680					
Long Term Monitoring	5 YR Review Year 15																\$ 32,680
Long Term Monitoring	5 YR Review Year 20																
Long Term Monitoring	5 YR Review Year 25																
Long Term Monitoring	5 YR Review Year 30																
O&M	Miscellaneous Support Costs	\$ 924,581	\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425	\$ 871,501	\$ 984,128	\$ 871,501			\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425
O&M	Groundwater Extraction Wells	\$ 9,399	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112
O&M	Media Filtration	\$ 17,946	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768
O&M	Carbon Adsorption (Liquid)	\$ 27,244	\$ 44,550	\$ 39,778	\$ 36,392	\$ 35,083	\$ 34,375	\$ 33,929	\$ 33,621	\$ 33,396	\$ 33,223	\$ 33,087	\$ 32,977	\$ 32,886	\$ 32,810	\$ 32,745	\$ 32,689
O&M	Coagulation/Flocculation	\$ 33,925	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157
O&M	Metals Precipitation	\$ 40,960	\$ 63,478	\$ 48,938	\$ 36,619	\$ 34,632	\$ 32,475	\$ 31,114	\$ 30,176	\$ 28,490	\$ 28,965	\$ 28,550	\$ 28,215	\$ 27,938	\$ 27,705	\$ 27,506	\$ 27,335
O&M	Metals Precipitation	\$ 90,818	\$ 150,585	\$ 140,044	\$ 132,564	\$ 129,674	\$ 128,110	\$ 127,124	\$ 126,444	\$ 125,946	\$ 125,566	\$ 125,266	\$ 125,022	\$ 124,822	\$ 124,653	\$ 124,509	\$ 124,385
O&M	Advanced Oxidation Processes	\$ 381,910	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703
O&M	Carbon Adsorption (Gas)	\$ 30,096	\$ 49,201	\$ 43,903	\$ 40,144	\$ 38,892	\$ 37,906	\$ 37,410	\$ 37,068	\$ 36,818	\$ 36,627	\$ 36,476	\$ 36,354	\$ 36,253	\$ 36,168	\$ 36,098	\$ 36,033
O&M	Discharge to POTW	\$ 3,647	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252
Site Close-out	Site Closeout																
Current Work Estimate (CWE)		\$ 8,424,007	\$ 2,250,818	\$ 2,328,294	\$ 2,190,723	\$ 1,309,584	\$ 1,454,754	\$ 2,140,017	\$ 2,250,376	\$ 2,136,090	\$ 1,263,320	\$ 1,294,998	\$ 2,133,008	\$ 2,244,966	\$ 2,131,776	\$ 1,259,795	\$ 1,431,486
Super. & Admin. (S&A)	8.00%	\$ 673,921	\$ 190,065	\$ 186,264	\$ 175,258	\$ 104,767	\$ 116,380	\$ 171,201	\$ 190,030	\$ 170,887	\$ 101,066	\$ 103,600	\$ 170,641	\$ 179,597	\$ 170,542	\$ 100,794	\$ 114,519
Super. & Review (S&R)	3.50%	\$ 294,840	\$ 78,779	\$ 81,490	\$ 76,675	\$ 45,835	\$ 50,916	\$ 74,901	\$ 78,763	\$ 74,763	\$ 44,216	\$ 45,325	\$ 74,655	\$ 78,574	\$ 74,612	\$ 44,093	\$ 50,102
Eng. Des./Const.	1.50%	\$ 126,360	\$ 33,762	\$ 34,924	\$ 32,861	\$ 19,644	\$ 21,821	\$ 32,100	\$ 33,756	\$ 32,041	\$ 18,950	\$ 19,425	\$ 31,995	\$ 33,674	\$ 31,977	\$ 18,897	\$ 21,472
Escalation Factor		1.0322	1.0549	1.0781	1.1019	1.1262	1.151	1.1764	1.2023	1.2286	1.2548	1.281	1.3072	1.3334	1.3598	1.3859	1.4121
Program Amount		\$ 9,825,644	\$ 2,683,058	\$ 2,836,451	\$ 2,727,772	\$ 1,666,584	\$ 1,882,087	\$ 2,844,793	\$ 3,057,359	\$ 2,965,572	\$ 1,791,292	\$ 1,874,548	\$ 3,150,743	\$ 3,382,585	\$ 3,275,150	\$ 1,972,923	\$ 2,284,184

Site Cost Over Time

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Calendar Year		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Phase Element	Phase Element Name																
Studies	Pre-Design Investigation																\$ 385,481
Remedial Design	Design																\$ 1,252,247
Remedial Action	Advanced Oxidation Processes																\$ 304,882
Remedial Action	Carbon Adsorption (Gas)																\$ 27,479
Remedial Action	Carbon Adsorption (Liquid)																\$ 53,371
Remedial Action	Coagulation/Flocculation																\$ 4,491
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Remedial Action	Groundwater Monitoring Well																\$ 78,076
Remedial Action	Groundwater Extraction Wells																\$ 106,710
Remedial Action	Media Filtration																\$ 73,486
Remedial Action	Miscellaneous Field Installation																\$ 63,254
Remedial Action	Metals Precipitation																\$ 122,625
Remedial Action	Metals Precipitation																\$ 154,626
Remedial Action	Overhead Electrical Distribution																\$ 15,189
Remedial Action	Off-site Transportation and Waste	\$ 152,700	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699		\$ 4,580,987
Remedial Action	Professional Labor Management																\$ 3,291,176
Remedial Action	ION EXCHANGE																\$ 641,230
Remedial Action	Residual Waste Management																\$ 4,047
Long Term Monitoring	GW Monitoring	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 114,585	\$ 111,758	\$ 111,758	\$ 111,758	\$ 111,758	\$ 37,215	\$ 3,727,785
Long Term Monitoring	5 YR Review Year 05																\$ 32,680
Long Term Monitoring	5 YR Review Year 10																\$ 32,680
Long Term Monitoring	5 YR Review Year 15																\$ 32,680
Long Term Monitoring	5 YR Review Year 20					\$ 32,680											\$ 32,680
Long Term Monitoring	5 YR Review Year 25										\$ 32,680						\$ 32,680
Long Term Monitoring	5 YR Review Year 30															\$ 32,680	\$ 32,680
O&M	Miscellaneous Support Costs	\$ 871,501	\$ 984,128	\$ 871,501			\$ 871,501	\$ 984,128	\$ 871,501		\$ 139,425	\$ 871,501	\$ 984,128	\$ 871,501			\$ 17,705,636
O&M	Groundwater Extraction Wells	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 16,112	\$ 6,713	\$ 483,360
O&M	Media Filtration	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 30,768	\$ 12,820	\$ 923,040
O&M	Carbon Adsorption (Liquid)	\$ 32,640	\$ 32,597	\$ 32,559	\$ 32,525	\$ 32,494	\$ 32,467	\$ 32,442	\$ 32,419	\$ 32,398	\$ 32,379	\$ 32,361	\$ 32,345	\$ 32,330	\$ 32,316	\$ 13,462	\$ 1,016,519
O&M	Coagulation/Flocculation	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 58,157	\$ 24,232	\$ 1,744,710
O&M	Metals Precipitation	\$ 27,186	\$ 27,055	\$ 26,939	\$ 26,835	\$ 26,742	\$ 26,659	\$ 26,582	\$ 26,513	\$ 26,449	\$ 26,391	\$ 26,337	\$ 26,288	\$ 26,242	\$ 26,199	\$ 10,909	\$ 929,322
O&M	Metals Precipitation	\$ 124,277	\$ 124,182	\$ 124,098	\$ 124,023	\$ 123,965	\$ 123,894	\$ 123,839	\$ 123,789	\$ 123,743	\$ 123,700	\$ 123,662	\$ 123,625	\$ 123,592	\$ 123,561	\$ 51,479	\$ 3,810,751
O&M	Advanced Oxidation Processes	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 654,703	\$ 272,793	\$ 19,641,090
O&M	Carbon Adsorption (Gas)	\$ 35,979	\$ 35,931	\$ 35,889	\$ 35,851	\$ 35,817	\$ 35,787	\$ 35,759	\$ 35,734	\$ 35,711	\$ 35,689	\$ 35,670	\$ 35,652	\$ 35,635	\$ 35,619	\$ 14,839	\$ 1,120,807
O&M	Discharge to POTW	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 2,605	\$ 187,580
Site Close-out	Site Closeout															\$ 201,936	\$ 201,936
Current Work Estimate (CWE)		\$ 2,130,522	\$ 2,242,831	\$ 2,129,924	\$ 1,258,172	\$ 1,290,626	\$ 2,129,246	\$ 2,241,688	\$ 2,128,894	\$ 1,257,239	\$ 1,423,540	\$ 2,119,980	\$ 2,232,487	\$ 2,119,749	\$ 1,248,144	\$ 681,683	\$ 62,878,737
Super. & Admin. (S&A)	8.00%	\$ 170,442	\$ 179,426	\$ 170,394	\$ 100,854	\$ 103,250	\$ 170,340	\$ 179,335	\$ 170,312	\$ 100,579	\$ 113,883	\$ 169,598	\$ 178,599	\$ 169,580	\$ 99,852	\$ 54,535	
Super. & Review (S&R)	3.50%	\$ 74,568	\$ 78,499	\$ 74,547	\$ 44,036	\$ 45,172	\$ 74,524	\$ 78,459	\$ 74,511	\$ 44,003	\$ 49,824	\$ 74,199	\$ 78,137	\$ 74,191	\$ 43,685	\$ 23,859	
Eng. Des./Const.	1.50%	\$ 31,958	\$ 33,642	\$ 31,949	\$ 18,873	\$ 19,359	\$ 31,939	\$ 33,625	\$ 31,933	\$ 18,859	\$ 21,353	\$ 31,800	\$ 33,487	\$ 31,796	\$ 18,722	\$ 10,225	
Escalation Factor	1.4383	1.4645	1.4907		1.5169	1.5431	1.5694	1.5956	1.6218	1.648	1.6742	1.7004	1.7267	1.7529	1.7791	1.8053	
Program Amount		\$ 3,462,893	\$ 3,711,627	\$ 3,587,839	\$ 2,156,629	\$ 2,250,468	\$ 3,776,052	\$ 4,041,826	\$ 3,901,484	\$ 2,341,281	\$ 2,693,118	\$ 4,073,440	\$ 4,355,964	\$ 4,198,750	\$ 2,509,247	\$ 1,390,626	\$ 96,681,798

Site Cost Summary Report (with Markups)

Folder: Parker Landfill R05

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers: **Material** 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label48
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

<u>Phase</u>	<u>Direct Cost</u>	<u>Markups</u>	<u>Total Cost</u>
Studies	\$128,763	\$256,718	\$385,481
Remedial Design	\$775,425	\$476,822	\$1,252,247
Remedial Action (Capital)	\$5,915,109	\$3,637,303	\$9,552,412
Operations & Maintenance	\$33,273,714	\$14,289,099	\$47,562,813
Operations & Maintenance	\$0	\$0	\$0
Long Term Monitoring	\$2,291,281	\$1,632,583	\$3,923,864
Site Close-out	\$75,135	\$126,801	\$201,936
Total Site Cost	\$42,459,427	\$20,419,327	\$62,878,754
		Escalation	\$20,994,398
		Escalated Site Cost	\$83,873,152

Site Cost Detail Report (with Markups)

Folder: Parker Landfill R05

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation

Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

				Prime						
Phase Element		General		Sub	Markup	Prime		Owner	Markup	
(Markup Template)	Direct Cost	Conditions	Overhead	Profit	on Sub	Profit	Risk	Cost	Total	Total
5 YR Review Year 05 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 10 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 15 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680

Cost Database Date: 2003

Cost Type: User-Defined

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Site Cost Detail Report (with Markups)

Phase Element	Prime									
	Direct Cost	General Conditions	Overhead	Sub Profit	Markup on Sub	Prime Profit	Risk	Owner Cost	Markup Total	Total
(Markup Template)										
5 YR Review Year 20 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 25 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 30 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
GW Monitoring (System Defaults)	\$2,223,421	\$175,587	\$873,131	\$0	\$0	\$278,132	\$0	\$177,514	\$1,504,363	\$3,727,784
O&M (System Defaults)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M (O&M) (System Defaults)	\$33,273,714	\$1,686,148	\$6,810,907	\$0	\$0	\$3,535,539	\$0	\$2,256,506	\$14,289,099	\$47,562,813
Pre-Design Investigation (System Defaults)	\$128,763	\$6,467	\$203,134	\$0	\$0	\$28,761	\$0	\$18,356	\$256,718	\$385,481
Pump and Treat (System Defaults)	\$5,915,109	\$305,506	\$2,164,210	\$0	\$0	\$712,710	\$0	\$454,877	\$3,637,303	\$9,552,412
Pump and Treat - Remedial Design (20%)	\$775,425								\$476,822	\$1,252,247
Site Closeout (System Defaults)	\$75,135	\$4,813	\$98,701	\$0	\$0	\$14,215	\$0	\$9,072	\$126,801	\$201,936

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:26 AM

Site Cost Detail Report (with Markups)

Phase Element (Markup Template)	Prime								Markup Total	Total
	Direct Cost	General Conditions	Overhead	Sub Profit	Markup on Sub	Prime Profit	Risk	Owner Cost		
Total Site Cost	\$42,459,427	\$2,187,669	\$10,245,992	\$0	\$0	\$4,583,495	\$0	\$2,925,348	\$20,419,327	\$62,878,754
							Escalation			\$20,994,398
							Escalated Site Cost			\$83,873,152

Cost Database Date: 2003

Cost Type: User-Defined

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Page: 3 of 3

Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: Pre-Design Investigation

Type: Studies

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: None

Start Date: 2/1/2004

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:29:26 PM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Remedial Investigation

Element: Scoping

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	20.00	MI	0.34	0.00	0.00	\$6.87	
33220102	Project Manager	100.00	HR	0.00	37.28	0.00	\$3,727.98	
33220105	Project Engineer	400.00	HR	0.00	27.60	0.00	\$11,040.12	
33220106	Staff Engineer	400.00	HR	0.00	21.99	0.00	\$8,797.12	
33220108	Project Scientist	300.00	HR	0.00	22.44	0.00	\$6,731.94	
33220109	Staff Scientist	500.00	HR	0.00	21.42	0.00	\$10,709.70	
33220110	QA/QC Officer	50.00	HR	0.00	48.79	0.00	\$2,439.32	
33220111	Certified Industrial Hygienist	50.00	HR	0.00	41.88	0.00	\$2,093.83	
33220114	Word Processing/Clerical	58.00	HR	0.00	12.41	0.00	\$719.80	
33220115	Draftsman/CADD	50.00	HR	0.00	19.23	0.00	\$961.64	
33240101	Other Direct Costs	1.00	LS	285.91	0.00	0.00	\$285.91	
Total Element Cost							\$47,514.23	

Element: Site Characterization

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	40.00	MI	0.34	0.00	0.00	\$13.75	
33220102	Project Manager	107.00	HR	0.00	37.28	0.00	\$3,988.94	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Characterization

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220103	Office Manager	43.00	HR	0.00	53.05	0.00	\$2,281.27	
33220105	Project Engineer	66.00	HR	0.00	27.60	0.00	\$1,821.62	
33220106	Staff Engineer	500.00	HR	0.00	21.99	0.00	\$10,996.40	
33220108	Project Scientist	237.00	HR	0.00	22.44	0.00	\$5,318.23	
33220109	Staff Scientist	1,798.00	HR	0.00	21.42	0.00	\$38,512.08	
33220110	QA/QC Officer	86.00	HR	0.00	48.79	0.00	\$4,195.63	
33220111	Certified Industrial Hygienist	51.00	HR	0.00	41.88	0.00	\$2,135.71	
33220112	Field Technician	201.00	HR	0.00	14.98	0.00	\$3,010.20	
33220114	Word Processing/Clerical	288.00	HR	0.00	12.41	0.00	\$3,574.20	
33220115	Draftsman/CADD	198.00	HR	0.00	19.23	0.00	\$3,808.07	
33240101	Other Direct Costs	1.00	LS	1,593.12	0.00	0.00	\$1,593.12	
Total Element Cost							\$81,249.22	
Total 1st Year Technology Cost							\$128,763.45	
Total Phase Element Cost							\$128,763.45	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:29:26 PM

Phase Element Cost Summary Report (with Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: Design

Type: Remedial Design

Start Date: 2/1/2004

Phase Element Cost Summary Report (with Markups)

Phase Name	Phase	Approach	Capital Costs	Design %	RD Cost
Pump and Treat	Remedial Action	None	\$6,261,236	20%	\$1,252,247
Total Phase Element Cost					\$1,252,247
Escalation					\$40,322
Escalated Phase Element Cost					\$1,292,569

Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R05

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
 Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: Pump and Treat

Type: Remedial Action

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: Ex Situ

Start Date: 2/1/2004

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Groundwater Extraction Wells

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
17020203	Demolish Bituminous Pavement with Air Equipment	0.60	CY	0.00	22.98	7.88	\$18.52	
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	633.79	3,500.00	\$4,133.79	
33020303	Organic Vapor Analyzer Rental, per Day	9.00	DAY	110.11	0.00	0.00	\$990.99	
33109660	5,000 Gallon Single-wall Steel Aboveground Tank	1.00	EA	4,200.42	973.18	195.21	\$5,368.81	
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	8.00	DAY	104.11	0.00	0.00	\$832.88	
33220112	Field Technician	36.00	HR	0.00	14.98	0.00	\$539.14	
33230103	6" PVC, Schedule 40, Well Casing	500.00	LF	3.82	3.04	10.71	\$8,787.70	
33230157	2" Pitless Adapter	3.00	EA	179.89	0.00	16.80	\$590.07	
33230203	6" PVC, Schedule 40, Well Screen	55.00	LF	8.70	5.07	17.85	\$1,739.24	
33230303	6" PVC, Well Plug	3.00	EA	58.56	7.92	27.90	\$283.15	
33230550	4" Submersible Pump, 33-55 GPM, 161'< Head <=220', 3 hp, w/ controls	3.00	EA	3,111.17	0.00	0.00	\$9,333.51	
33231152	Air Rotary, 10" Dia Borehole (Unconsolidated), 100 ft < Depth <= 500 ft	550.00	LF	0.00	14.48	51.00	\$36,017.14	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:48 AM

Phase Element Technology Cost Detail Report (without Markups)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33231172	Split Spoon Sample, 2" x 24", During Drilling	34.00	EA	39.78	0.00	0.00	\$1,352.51	
33231182	Furnish 55 Gallon Drum for Drill Cuttings & Development Water	18.00	EA	72.51	0.00	0.00	\$1,305.13	
33231186	Well Development Equipment Rental (weekly)	3.00	WK	219.02	0.00	0.00	\$657.07	
33231403	6" Screen, Filter Pack	55.00	LF	7.28	4.60	16.18	\$1,542.84	
33231813	6" Well, Portland Cement Grout	155.00	LF	9.00	0.00	0.00	\$1,395.11	
33232103	6" Well, Bentonite Seal	3.00	EA	33.80	28.52	100.43	\$488.27	
33232206	Restricted Area, Well Protection (with 4 Posts & Explosionproof Receptacle)	3.00	EA	518.55	237.89	1.81	\$2,274.75	
33260202	2" Stainless Steel Piping, Schedule 40, Threaded	55.00	LF	16.20	7.72	0.00	\$1,315.31	
Total Element Cost							\$78,965.93	
Total 1st Year Technology Cost							\$78,965.93	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Media Filtration

Element: N/A

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
18020324	12" Structural Slab on Grade	200.00	SF	4.97	2.49	0.45	\$1,581.90	
33130104	6' Diameter Electric Automatic Pressure Filter Unit	2.00	EA	12,695.27	2,500.82	1,412.67	\$33,217.52	
33260203	3" Stainless Steel Piping, Schedule 40, Threaded	200.00	LF	33.61	11.57	0.00	\$9,036.40	
33310401	Heat Exchanger, 8 GPM, Purchase and Installation	1.00	EA	11,330.91	119.61	0.00	\$11,450.52	
Total Element Cost							\$55,286.34	
Total 1st Year Technology Cost							\$55,286.34	

Cost Database Date: 2003

Cost Type: User-Defined

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Page: 4 of 21

Phase Element Technology Cost Detail Report (without Markups)

Technology: Carbon Adsorption (Liquid)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020322	8" Structural Slab on Grade	65.00	SF	3.74	2.23	0.41	\$414.98	
33132025	200 GPM, 6,000 Lb Fill, High-density Polyethylene-lined Steel, Permanent	2.00	EA	16,001.60	888.75	357.88	\$34,496.44	
33290124	150 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	4,112.90	1,639.35	0.00	\$5,752.25	
Total Element Cost							\$40,663.67	
Total 1st Year Technology Cost							\$40,663.67	

Cost Database Date: 2003

Cost Type: User-Defined

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Page: 5 of 21

Phase Element Technology Cost Detail Report (without Markups)

Technology: Overhead Electrical Distribution

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
20020301	1/0 ACSR Conductor	636.00	LF	0.21	0.44	0.06	\$451.43	
20020310	1/C #2 Aluminum, Bare, Wire	282.00	LF	0.16	0.43	0.06	\$180.99	
20020402	35' Class 3 Treated Power Pole	2.00	EA	284.26	227.56	44.89	\$1,113.43	
20020430	Terminal Structure, 5 KV Pole Top	2.00	EA	1,188.65	855.93	168.84	\$4,426.83	
20020511	5 KV, 3/0, Shielded Cable, Copper	105.00	LF	2.58	1.10	0.22	\$409.56	
20020545	5 KV, 1/0 to 4/0 Conductor, Terminations & Splicing	6.00	EA	458.79	170.87	0.00	\$3,777.97	
20039902	4" Rigid Steel Conduit	35.00	LF	9.09	6.89	0.00	\$559.20	
Total Element Cost							\$10,919.41	
Total 1st Year Technology Cost							\$10,919.41	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:48 AM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Residual Waste Management

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33190103	Load Drums on Disposal Vehicle	70.00	EA	0.00	1.46	1.64	\$216.98	
33190204	Transport 55 Gallon Drums of Hazardous Waste, Max 80 drums (per Mile)	150.00	MI	1.58	0.00	0.00	\$237.03	
33190205	Transport Bulk Solid Hazardous Waste, Maximum 20 CY (per Mile)	150.00	MI	1.52	0.00	0.00	\$228.03	
33190317	Waste Stream Evaluation Fee, Not Including 50% Rebate on 1st Shipment	2.00	EA	435.04	0.00	0.00	\$870.09	
33190350	State Disposal Tax (Non-Hazardous, Non-leaking Drums)	70.00	EA	5.00	0.00	0.00	\$350.00	
33190352	State Disposal Tax (Non-Hazardous Bulk Solid)	2.00	CY	5.00	0.00	0.00	\$10.00	
33197205	Landfill Nonhazardous Solid Waste, 55 Gallon Drum	70.00	EA	13.50	0.00	0.00	\$945.00	
33197270	Landfill Nonhazardous Solid Bulk Waste by CY	2.00	CY	131.30	0.00	0.00	\$262.60	
Total Element Cost							\$3,119.73	
Total 1st Year Technology Cost							\$3,119.73	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:48 AM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Professional Labor Management

Element: Professional Labor Percentage

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220138	Project Management Labor Cost	1.00	LS	0.00	241,247.97	0.00	\$241,247.97	
33220139	Planning Documents Labor Cost	1.00	LS	0.00	241,247.97	0.00	\$241,247.97	
33220140	Construction Oversight Labor Cost	1.00	LS	0.00	301,559.97	0.00	\$301,559.97	
33220141	Reporting Labor Cost	1.00	LS	0.00	30,156.00	0.00	\$30,156.00	
33220142	As-Built Drawings Labor Cost	1.00	LS	0.00	30,156.00	0.00	\$30,156.00	
33220143	Public Notice Labor Cost	1.00	LS	0.00	4,221.84	0.00	\$4,221.84	
33220144	Site Closure Activities Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220145	Permitting Labor Cost	1.00	LS	0.00	241,559.97	0.00	\$241,559.97	
33220146	Responsible Party Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220147	Reimbursement Claims Preparation Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220148	Other Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
Total Element Cost							\$1,090,149.71	
Total 1st Year Technology Cost							\$1,090,149.71	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:48 AM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Groundwater Monitoring Well

Element: Aquifer 1

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33020303	Organic Vapor Analyzer Rental, per Day	13.00	DAY	110.11	0.00	0.00	\$1,431.44	
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	13.00	DAY	104.11	0.00	0.00	\$1,353.44	
33220112	Field Technician	208.00	HR	0.00	14.98	0.00	\$3,115.03	
33230101	2" PVC, Schedule 40, Well Casing	900.00	LF	1.10	2.11	7.44	\$9,583.02	
33230201	2" PVC, Schedule 40, Well Screen	100.00	LF	2.53	2.73	9.60	\$1,485.19	
33230301	2" PVC, Well Plug	10.00	EA	5.33	3.17	11.16	\$196.57	
33231101	Hollow Stem Auger, 8" Dia Borehole, Depth <= 100 ft	1,010.00	LF	0.00	5.79	20.40	\$26,456.24	
33231182	Furnish 55 Gallon Drum for Drill Cuttings & Development Water	53.00	EA	72.51	0.00	0.00	\$3,842.89	
33231401	2" Screen, Filter Pack	120.00	LF	2.84	1.80	6.32	\$1,315.51	
33231811	2" Well, Portland Cement Grout	870.00	LF	1.06	0.00	0.00	\$921.24	
33232101	2" Well, Bentonite Seal	10.00	EA	8.45	7.13	25.11	\$406.89	
Total Element Cost							\$50,107.46	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: General Aquifers

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	633.79	2,231.86	\$2,865.66	
33231504	Surface Pad, Concrete, 2' x 2' x 4"	10.00	EA	37.02	66.05	4.21	\$1,072.83	
Total Element Cost							\$3,938.48	
Total 1st Year Technology Cost							\$54,045.94	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Coagulation/Flocculation

Element: N/A

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
18020324	12" Structural Slab on Grade	260.00	SF	4.97	2.49	0.45	\$2,056.47	
19010206	3", Class 200, PVC Piping	200.00	LF	0.87	4.20	0.43	\$1,100.94	
Total Element Cost							\$3,157.41	
Total 1st Year Technology Cost							\$3,157.41	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Metals Precipitation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020322	8" Structural Slab on Grade	600.00	SF	3.74	2.23	0.41	\$3,830.58	
33021514	pH/ORP Output Card Dual Propor Alarm	1.00	EA	94.51	22.43	0.00	\$116.93	
33021515	pH/ORP Input Card Isolated 0/4-20 mA	1.00	EA	149.35	22.43	0.00	\$171.77	
33021518	pH Controller with Isolated 4-20 mA Output	1.00	EA	1,254.27	22.43	0.00	\$1,276.70	
33021519	pH Pump Pulser Board for Controller	1.00	EA	252.02	22.43	0.00	\$274.45	
33021520	Analog pH Analyzer with 2 - 12 pH Dials	2.00	EA	674.39	11.21	0.00	\$1,371.20	
33021523	pH Coax Cable (12')	2.00	EA	103.99	11.21	0.00	\$230.41	
33021524	Submersion Assembly	2.00	EA	227.52	11.21	0.00	\$477.46	
33120606	Pumping System	1.00	EA	1,925.19	0.00	0.00	\$1,925.19	
33120610	70 GPM Continuous Neutralization System	1.00	EA	80,160.43	0.00	0.00	\$80,160.43	
33260302	2" Polypropylene Pipe Including Fittings	50.00	LF	1.28	2.98	0.00	\$213.17	
33290122	75 GPM, 3 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,602.87	1,012.46	0.00	\$4,615.33	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$94,663.63
Total 1st Year Technology Cost	\$94,663.63

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Metals Precipitation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021524	Submersion Assembly	2.00	EA	227.52	11.21	0.00	\$477.46	
33120606	Pumping System	1.00	EA	1,925.19	0.00	0.00	\$1,925.19	
33120610	70 GPM Continuous Neutralization System	1.00	EA	80,160.43	0.00	0.00	\$80,160.43	
33260302	2" Polypropylene Pipe Including Fittings	50.00	LF	1.28	2.98	0.00	\$213.17	
33290122	75 GPM, 3 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,602.87	1,012.46	0.00	\$4,615.33	
33333011	2 CF Filter Press system w/sludge tanks,pumps,mixers,sludge cart	1.00	EA	32,458.37	0.00	0.00	\$32,458.37	
Total Element Cost							\$119,849.96	
Total 1st Year Technology Cost							\$119,849.96	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Advanced Oxidation Processes

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020321	6" Structural Slab on Grade	1,500.00	SF	2.53	1.75	0.19	\$6,700.80	
19040438	2,600 Gallon Conical Bottom Vertical XLPE Tank	1.00	EA	3,703.84	94.81	11.18	\$3,809.84	
19040445	2,600 Gallon Conical Tank Stand	1.00	EA	2,045.66	0.00	0.00	\$2,045.66	
33120803	Peroxide System Mob/Assembly/Shakedown	1.00	EA	9,707.46	0.00	0.00	\$9,707.46	
33120805	Operator Health and Safety Course	1.00	EA	408.37	965.21	0.00	\$1,373.58	
33120820	70 KW High Intensity Ultraviolet, H2O2 Capital Equipment	1.00	EA	137,911.25	8,738.00	17,909.61	\$164,558.87	
33120848	Fugitive Emission Control System	1.00	EA	23,335.24	1,434.92	2,941.04	\$27,711.19	
33130116	0 - 50 GPM Cartridge Filter Equipment	3.00	EA	2,209.33	41.03	0.00	\$6,751.07	
33260203	3" Stainless Steel Piping, Schedule 40, Threaded	100.00	LF	33.61	11.57	0.00	\$4,518.20	
33290124	150 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	4,112.90	1,639.35	0.00	\$5,752.25	
Total Element Cost							\$232,928.92	
Total 1st Year Technology Cost							\$232,928.92	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: ION EXCHANGE

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021511	Water Flowmeter	6.00	EA	75.01	0.00	0.00	\$450.05	
33021512	pH Chemical Feed Controller without Input Card	1.00	EA	810.90	0.00	0.00	\$810.90	
33021514	pH/ORP Output Card Dual Propor Alarm	1.00	EA	94.51	22.43	0.00	\$116.93	
33021519	pH Pump Pulser Board for Controller	1.00	EA	252.02	22.43	0.00	\$274.45	
33021520	Analog pH Analyzer with 2 - 12 pH Dials	1.00	EA	674.39	11.21	0.00	\$685.60	
33021521	pH Coax Cable (4')	1.00	EA	66.74	11.21	0.00	\$77.95	
33109650	Control Panel, 1 - 8 Single-wall Tanks, Monitoring System	1.00	EA	2,225.22	0.00	0.00	\$2,225.22	
33109724	30,000 Gallon Double-walled Storage Tank, Leak Detection Sensor	2.00	EA	4,355.70	0.00	0.00	\$8,711.39	
33130416	1/3 HP, Single Propeller 4" Diameter Mixer	1.00	EA	1,516.79	44.56	0.00	\$1,561.35	
33290124	150 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	4,112.90	1,639.35	0.00	\$5,752.25	
33310206	30 HP, 240 Gallon, 200 PSI, 143 SCFM, Air Compressor	1.00	EA	12,477.63	1,128.79	0.00	\$13,606.42	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33330102	Sodium Hydroxide Solution, 700 Lb Drummed Liquid	50.00	EA	133.01	5.72	3.77	\$7,125.21	
33430201	Miscellaneous Minor Field Installation	1.00	LS	0.00	0.00	452,000.00	\$452,000.00	
Total Element Cost							\$493,397.72	
Total 1st Year Technology Cost							\$493,397.72	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Carbon Adsorption (Gas)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020322	8" Structural Slab on Grade	60.00	SF	3.74	2.23	0.41	\$383.06	
33021501	Saturation Indicator	1.00	EA	45.00	0.00	0.00	\$45.00	
33021506	Monitoring Port with Gas Monitor	2.00	EA	1.03	11.57	0.00	\$25.22	
33131981	Dual Bed,1000 CFM Series/2000 CFM Parallel,2000 Lb Fill each	1.00	EA	20,646.45	0.00	0.00	\$20,646.45	
33310209	Pressure Gauge	2.00	EA	64.22	33.64	0.00	\$195.71	
Total Element Cost							\$21,295.44	
Total 1st Year Technology Cost							\$21,295.44	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Discharge to POTW

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
17010107	Medium Brush, Medium Trees, Clear, Grub, Haul	1.00	ACRE	0.00	3,000.24	3,220.75	\$6,220.99	
17030259	Cat 225, 1.5 CY, Soil/Sand, Trenching	278.00	CY	0.00	0.33	0.59	\$255.01	
17030260	Cat 225, 1.5 CY, Soil/Sand, 10' - 20' Deep Trench Box, Trench	278.00	CY	0.97	1.09	1.96	\$1,116.14	
17030272	Pull Trench Box, Cat 225, 1.5 CY, Soil/Sand, Trenching	278.00	CY	0.48	1.09	1.96	\$981.51	
17030401	950, 3.00 CY, Backfill with Excavated Material	270.00	CY	0.00	0.41	0.73	\$309.39	
17031001	Wellpoint for Trench, Install & Remove <500', 1 Month	5.00	LFHD	60.94	0.00	0.00	\$304.72	
18050402	Seeding, Vegetative Cover	1.00	ACRE	3,408.77	61.45	59.23	\$3,529.44	
19020126	6" PVC Pipe Sanitary	1,000.00	LF	2.48	3.50	2.05	\$8,021.10	
33197101	Sewer Connection Fee	1.00	EA	1,500.00	0.00	0.00	\$1,500.00	
Total Element Cost							\$22,238.30	
Total 1st Year Technology Cost							\$22,238.30	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Off-site Transportation and Waste Disposal

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33190101	Liquid Loading Into 5,000 Gallon Bulk Tank Truck	274.00	EA	0.00	212.53	115.34	\$89,835.67	
33190255	Tanker Trailer Transport Hazardous Waste 300 - 399 Miles	82,200.00	MI	2.24	0.00	0.00	\$184,144.44	
33197278	Landfill Nonhazardous Nonfuel Liquid/Sludge	1,368,750.00	GAL	2.39	0.00	0.00	\$3,271,312.50	
Total Element Cost							\$3,545,292.61	
Total 1st Year Technology Cost							\$3,545,292.61	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Miscellaneous Field Installation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33430201	Miscellaneous Minor Field Installation	1.00	LS	49,134.68	0.00	0.00	\$49,134.68	
Total Element Cost							\$49,134.68	
Total 1st Year Technology Cost							\$49,134.68	
Total Phase Element Cost							\$5,915,109.40	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: O&M

Type: Operations & Maintenance

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: Ex Situ

Start Date: 2/1/2004

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: System Defaults

Cost Database Date: 2003

Cost Type: User-Defined

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Page: 1 of 9

Phase Element Technology Cost Detail Report (without Markups)

Technology: Operations and Maintenance (12 - months only)

Element: Miscellaneous

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010202	Per Diem (per person)	72.00	DAY	109.80	0.00	0.00	\$7,905.60	
33010206	Mobilize Crew, Local, per Person	365.00	EA	22.83	0.00	0.00	\$8,332.15	
33010423	Disposable Gloves (Latex)	1,204.00	PAIR	0.21	0.00	0.00	\$246.82	
33010425	Disposable Coveralls (Tyvek)	1,204.00	EA	4.36	0.00	0.00	\$5,251.49	
33190340	Non Haz Drummed Site Waste - Load, Transp, & Landfill Disp (55-Gal Drums)	31.00	EA	200.48	0.00	0.00	\$6,214.99	
33199921	DOT Steel Drum, 55 Gallon	31.00	EA	72.51	0.00	0.00	\$2,247.73	
33220104	Senior Staff Engineer	81.00	HR	0.00	37.21	0.00	\$3,014.16	
33220112	Field Technician	365.00	HR	0.00	14.98	0.00	\$5,466.28	
33240104	Startup Costs	1.00	LS	56,132.04	56,132.04	28,066.02	\$140,330.11	
33420101	Electrical Charge	9,883,582.00	KWH	0.07	0.00	0.00	\$644,409.55	
99999001	Other	1.00	LS	300,000.00	0.00	0.00	\$300,000.00	
Total Element Cost							\$1,123,418.86	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Groundwater Extraction Wells

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	60.00	HR	0.00	21.99	0.00	\$1,319.57	
33220112	Field Technician	195.00	HR	0.00	14.98	0.00	\$2,920.34	
33420101	Electrical Charge	42,364.00	KWH	0.07	0.00	0.00	\$2,762.13	
Total Element Cost							\$7,002.04	

Element: Media Filtration

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	86.00	HR	0.00	21.99	0.00	\$1,891.38	
33220112	Field Technician	539.00	HR	0.00	14.98	0.00	\$8,072.12	
33420101	Electrical Charge	15,033.00	KWH	0.07	0.00	0.00	\$980.15	
Total Element Cost							\$10,943.65	

Element: Carbon Adsorption (Liquid)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33132052	Coal-based General Purpose, 8 x 30 Sieve, 900 Iodine, 2,000 - 10,000 Lb	8,000.00	LB	0.94	0.00	0.00	\$7,520.80	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Carbon Adsorption (Liquid)

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33132065	Removal, Transport, Regeneration of Spent Carbon, < 2K lb	8,000.00	LB	0.61	0.00	0.00	\$4,844.80	
33220106	Staff Engineer	96.00	HR	0.00	21.99	0.00	\$2,111.31	
33220112	Field Technician	529.00	HR	0.00	14.98	0.00	\$7,922.36	
33420101	Electrical Charge	21,033.00	KWH	0.07	0.00	0.00	\$1,371.35	
Total Element Cost							\$23,770.62	

Element: Coagulation/Flocculation

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220106	Staff Engineer	153.00	HR	0.00	21.99	0.00	\$3,364.90	
33220112	Field Technician	595.00	HR	0.00	14.98	0.00	\$8,910.78	
33330127	Non-ionic Polymeric Flocculant	3,925.00	LB	3.51	0.00	0.00	\$13,784.21	
33420101	Electrical Charge	59,353.00	KWH	0.07	0.00	0.00	\$3,869.82	
Total Element Cost							\$29,929.70	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33220106	Staff Engineer	196.00	HR	0.00	21.99	0.00	\$4,310.59	
33220112	Field Technician	880.00	HR	0.00	14.98	0.00	\$13,178.97	
33330111	Sulfuric Acid Solution, 750 Lb Drummed Liquid	55.00	EA	75.01	5.72	3.77	\$4,647.41	
33330117	Hydrated Lime, Powdered, Bulk	59.00	TON	98.25	0.01	0.01	\$5,797.40	
33420101	Electrical Charge	55,567.00	KWH	0.07	0.00	0.00	\$3,622.97	
Total Element Cost							\$32,495.54	

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33220106	Staff Engineer	236.00	HR	0.00	21.99	0.00	\$5,190.30	
33220112	Field Technician	890.00	HR	0.00	14.98	0.00	\$13,328.73	
33330111	Sulfuric Acid Solution, 750 Lb Drummed Liquid	55.00	EA	75.01	5.72	3.77	\$4,647.41	
33330117	Hydrated Lime, Powdered, Bulk	59.00	TON	98.25	0.01	0.01	\$5,797.40	
33333011	2 CF Filter Press system w/sludge tanks,pumps,mixers,sludge cart	2.00	EA	32,458.37	0.00	0.00	\$64,916.74	
33420101	Electrical Charge	70,567.00	KWH	0.07	0.00	0.00	\$4,600.97	
Total Element Cost							\$99,419.75	

Element: Advanced Oxidation Processes

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Advanced Oxidation Processes

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33120851	7.5 KW Ultraviolet Source High Intensity Lamp	50.00	EA	175.01	0.00	0.00	\$8,750.71	
33132917	Propane	35,000.00	GAL	1.48	0.00	0.00	\$51,674.00	
33220106	Staff Engineer	224.00	HR	0.00	21.99	0.00	\$4,926.39	
33220112	Field Technician	817.00	HR	0.00	14.98	0.00	\$12,235.47	
33330171	Hydrogen Peroxide, 50% Solution, 500 Lb Drums	445.00	EA	890.09	0.00	0.00	\$396,089.61	
33420101	Electrical Charge	407,902.00	KWH	0.07	0.00	0.00	\$26,595.21	
Total Element Cost							\$501,209.59	

Element: Carbon Adsorption (Gas)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021803	Tentative ID Compounds, GC/MS, Air (30/5041/8260B - TO-14), Air Analysis	2.00	EA	138.01	0.00	0.00	\$276.03	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Carbon Adsorption (Gas)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33131942	Coal-based, 4 mm Pellet, for Solvent Recovery 2,000 - 10,000 Lb	9,000.00	LB	0.99	0.00	0.00	\$8,910.90	
33132065	Removal, Transport, Regeneration of Spent Carbon, < 2K lb	9,000.00	LB	0.61	0.00	0.00	\$5,450.40	
33220106	Staff Engineer	119.00	HR	0.00	21.99	0.00	\$2,617.14	
33220112	Field Technician	485.00	HR	0.00	14.98	0.00	\$7,263.41	
33420101	Electrical Charge	53,800.00	KWH	0.07	0.00	0.00	\$3,507.76	
Total Element Cost							\$28,025.64	

Element: Discharge to POTW

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	16.00	HR	0.00	21.99	0.00	\$351.88	
33220112	Field Technician	80.00	HR	0.00	14.98	0.00	\$1,198.09	
33420101	Electrical Charge	18,033.00	KWH	0.07	0.00	0.00	\$1,175.75	
Total Element Cost							\$2,725.72	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Total 1st Year Technology Cost	\$1,858,941.12
Runtime Percent Cost Adjustment	97%
O & M Total Cost	\$1,803,172.89
Total Phase Element Cost	\$1,803,172.89

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: GW Monitoring
Type: Long Term Monitoring
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 2/1/2004

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Description: 10 wells, quarterly for 5 yr, annually for years 6-30 for VOCs; 45 wells semi-annually for 30 yrs for TAL Metals and VOCs

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:31:06 PM

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Monitoring (12 - months only)

Element: Groundwater

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33020401	Disposable Materials per Sample	40.00	EA	7.67	0.00	0.00	\$306.86	
33020402	Decontamination Materials per Sample	40.00	EA	6.90	0.00	0.00	\$276.03	
33020561	Nylon Tubing, 1/4" Outside Diameter	4,025.00	LF	0.40	0.00	0.00	\$1,610.00	
33021509	Water Quality Parameter Testing Device	2.00	WK	219.02	0.00	0.00	\$438.04	
33029501	Water Analysis EPA 8260B	40.00	LS	181.50	0.00	0.00	\$7,260.00	
33230510	4" Submersible Pump Rental, Week	2.00	WK	220.94	0.00	0.00	\$441.87	
33231186	Well Development Equipment Rental (weekly)	2.00	WK	219.02	0.00	0.00	\$438.04	
Total Element Cost							\$10,770.84	

Element: General Monitoring

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	160.00	MI	0.34	0.00	0.00	\$54.99	
33220108	Project Scientist	140.00	HR	0.00	22.44	0.00	\$3,141.57	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: General Monitoring

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220112	Field Technician	148.00	HR	0.00	14.98	0.00	\$2,216.46	
33220114	Word Processing/Clerical	20.00	HR	0.00	12.41	0.00	\$248.21	
33220115	Draftsman/CADD	20.00	HR	0.00	19.23	0.00	\$384.65	
Total Element Cost							\$6,045.89	
Total 1st Year Technology Cost							\$16,816.73	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Monitoring (12 - months only)

Element: Groundwater

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33020401	Disposable Materials per Sample	10.00	EA	7.67	0.00	0.00	\$76.71	
33020402	Decontamination Materials per Sample	10.00	EA	6.90	0.00	0.00	\$69.01	
33020561	Nylon Tubing, 1/4" Outside Diameter	1,025.00	LF	0.40	0.00	0.00	\$410.00	
33021509	Water Quality Parameter Testing Device	1.00	WK	219.02	0.00	0.00	\$219.02	
33029501	Water Analysis EPA 8260B	10.00	LS	181.50	0.00	0.00	\$1,815.00	
33230509	4" Submersible Pump Rental, Day	2.00	DAY	73.65	0.00	0.00	\$147.29	
33231186	Well Development Equipment Rental (weekly)	1.00	WK	219.02	0.00	0.00	\$219.02	
Total Element Cost							\$2,956.06	

Element: General Monitoring

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	40.00	MI	0.34	0.00	0.00	\$13.75	
33220108	Project Scientist	35.00	HR	0.00	22.44	0.00	\$785.39	
33220112	Field Technician	37.00	HR	0.00	14.98	0.00	\$554.12	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: General Monitoring

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220114	Word Processing/Clerical	5.00	HR	0.00	12.41	0.00	\$62.05	
33220115	Draftsman/CADD	5.00	HR	0.00	19.23	0.00	\$96.16	
Total Element Cost							\$1,511.47	
Total 1st Year Technology Cost							\$4,467.53	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Monitoring (12 - months only)

Element: Groundwater

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33020401	Disposable Materials per Sample	90.00	EA	7.67	0.00	0.00	\$690.43	
33020402	Decontamination Materials per Sample	90.00	EA	6.90	0.00	0.00	\$621.06	
33020561	Nylon Tubing, 1/4" Outside Diameter	9,025.00	LF	0.40	0.00	0.00	\$3,610.00	
33021509	Water Quality Parameter Testing Device	4.00	WK	219.02	0.00	0.00	\$876.09	
33021620	TAL Metals (EPA 6010/7000s), Water, Water Analysis	90.00	EA	342.30	0.00	0.00	\$30,806.59	
33029501	Water Analysis EPA 8260B	90.00	LS	181.50	0.00	0.00	\$16,335.00	
33230510	4" Submersible Pump Rental, Week	3.00	WK	220.94	0.00	0.00	\$662.81	
33231186	Well Development Equipment Rental (weekly)	4.00	WK	219.02	0.00	0.00	\$876.09	
Total Element Cost							\$54,478.06	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: General Monitoring

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010104	Car or Van Mileage Charge	320.00	MI	0.34	0.00	0.00	\$109.98	
33220108	Project Scientist	315.00	HR	0.00	22.44	0.00	\$7,068.54	
33220112	Field Technician	301.00	HR	0.00	14.98	0.00	\$4,507.81	
33220114	Word Processing/Clerical	45.00	HR	0.00	12.41	0.00	\$558.47	
33220115	Draftsman/CADD	45.00	HR	0.00	19.23	0.00	\$865.47	
Total Element Cost							\$13,110.27	
Total 1st Year Technology Cost							\$67,588.32	
Total Phase Element Cost							\$88,872.58	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation

Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 05

Type: Long Term Monitoring

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: None

Start Date: 7/1/2009

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers: **Material** 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 10
Type: Long Term Monitoring
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 7/1/2014

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds
(VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:25 PM

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 15
Type: Long Term Monitoring
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 7/1/2019

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:38 PM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:38 PM

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 20

Type: Long Term Monitoring

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: None

Start Date: 7/1/2024

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:53 PM

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:53 PM

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:32:53 PM

Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 25
Type: Long Term Monitoring
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 7/1/2029

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:08 PM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:08 PM

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Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:08 PM

Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill

ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: 5 YR Review Year 30

Type: Long Term Monitoring

Labor Rate Group: System Labor Rate

Analysis Rate Group: System Analysis Rate

Approach: None

Start Date: 7/1/2034

Media/Waste Type: Groundwater

Secondary Media/Waste Type: N/A

Contaminant: Volatile Organic Compounds
(VOCs)

Secondary Contaminant: None

Markup Template: System Defaults

O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:20 PM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	17.00	HR	0.00	37.28	0.00	\$633.76	
33220105	Project Engineer	20.00	HR	0.00	27.60	0.00	\$552.01	
33220108	Project Scientist	16.00	HR	0.00	22.44	0.00	\$359.04	
33220109	Staff Scientist	30.00	HR	0.00	21.42	0.00	\$642.58	
Total Element Cost							\$2,187.38	

Element: Interviews

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	20.00	HR	0.00	37.28	0.00	\$745.60	
Total Element Cost							\$745.60	

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220102	Project Manager	12.00	HR	0.00	37.28	0.00	\$447.36	
33220105	Project Engineer	37.00	HR	0.00	27.60	0.00	\$1,021.21	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:20 PM

Phase Element Technology Cost Detail Report (without Markups)

Element: Site Inspection

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220108	Project Scientist	23.00	HR	0.00	22.44	0.00	\$516.12	
33220109	Staff Scientist	26.00	HR	0.00	21.42	0.00	\$556.90	
Total Element Cost							\$2,541.59	

Element: Report

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220102	Project Manager	19.00	HR	0.00	37.28	0.00	\$708.32	
33220105	Project Engineer	46.00	HR	0.00	27.60	0.00	\$1,269.61	
33220108	Project Scientist	41.00	HR	0.00	22.44	0.00	\$920.03	
33220109	Staff Scientist	75.00	HR	0.00	21.42	0.00	\$1,606.46	
Total Element Cost							\$4,504.42	

Element: Travel

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010108	Sedan, Automobile, Rental	5.00	DAY	46.58	0.00	0.00	\$232.90	
33010202	Per Diem (per person)	10.00	DAY	109.80	0.00	0.00	\$1,098.00	
33041101	Airfare	2.00	LS	0.00	0.00	0.00	\$0.00	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:20 PM

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Phase Element Technology Cost Detail Report (without Markups)

Total Element Cost	\$1,330.90
Total 1st Year Technology Cost	\$11,309.88
Total Phase Element Cost	\$11,309.88

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:33:20 PM

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: Site Closeout
Type: Site Close-out
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 8/1/2034

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:31:44 PM

Page: 1 of 4

Phase Element Technology Cost Detail Report (without Markups)

Technology: Site Close-Out Documentation

Element: Meetings

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220101	Senior Project Manager	4.00	HR	0.00	44.50	0.00	\$178.00	
33220102	Project Manager	80.00	HR	0.00	37.28	0.00	\$2,982.38	
33220106	Staff Engineer	60.00	HR	0.00	21.99	0.00	\$1,319.57	
33220114	Word Processing/Clerical	24.00	HR	0.00	12.41	0.00	\$297.85	
33220115	Draftsman/CADD	8.00	HR	0.00	19.23	0.00	\$153.86	
Total Element Cost							\$4,931.67	

Element: Work Plans & Reports

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220101	Senior Project Manager	60.00	HR	0.00	44.50	0.00	\$2,670.04	
33220102	Project Manager	300.00	HR	0.00	37.28	0.00	\$11,183.94	
33220104	Senior Staff Engineer	300.00	HR	0.00	37.21	0.00	\$11,163.54	
33220109	Staff Scientist	100.00	HR	0.00	21.42	0.00	\$2,141.94	
33220114	Word Processing/Clerical	166.00	HR	0.00	12.41	0.00	\$2,060.13	
33220115	Draftsman/CADD	80.00	HR	0.00	19.23	0.00	\$1,538.62	
Total Element Cost							\$30,758.20	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:31:44 PM

Phase Element Technology Cost Detail Report (without Markups)

Element: Abandon wells

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010107	Van or Pickup Rental	52.00	DAY	35.00	0.00	0.00	\$1,820.18	
33010202	Per Diem (per person)	104.00	DAY	109.80	0.00	0.00	\$11,419.20	
33220101	Senior Project Manager	2.00	HR	0.00	44.50	0.00	\$89.00	
33220102	Project Manager	204.00	HR	0.00	37.28	0.00	\$7,605.08	
33220106	Staff Engineer	200.00	HR	0.00	21.99	0.00	\$4,398.56	
33220109	Staff Scientist	200.00	HR	0.00	21.42	0.00	\$4,283.88	
33220114	Word Processing/Clerical	4.00	HR	0.00	12.41	0.00	\$49.64	
Total Element Cost							\$29,665.54	

Element: Documents

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33220101	Senior Project Manager	3.00	HR	0.00	44.50	0.00	\$133.50	
33220102	Project Manager	60.00	HR	0.00	37.28	0.00	\$2,236.79	
33220104	Senior Staff Engineer	60.00	HR	0.00	37.21	0.00	\$2,232.71	
33220106	Staff Engineer	150.00	HR	0.00	21.99	0.00	\$3,298.92	
33220114	Word Processing/Clerical	60.00	HR	0.00	12.41	0.00	\$744.62	
33220115	Draftsman/CADD	40.00	HR	0.00	19.23	0.00	\$769.31	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Documents

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33440102	Standard Record Storage Carton (Month)	840.00	MO	0.00	0.36	0.00	\$302.06	
33440105	Standard Storage Carton	10.00	EA	2.32	1.94	0.00	\$42.61	
33440113	Pickup Boxes (Per Box)	10.00	EA	0.00	1.94	0.00	\$19.44	
Total Element Cost							\$9,779.96	
Total 1st Year Technology Cost							\$75,135.36	
Total Phase Element Cost							\$75,135.36	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:31:44 PM

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Residual Waste Management Summary Report

Folder: Parker Landfill R05

Project

Name: 110 GPM Parker Landfill
ID: Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers: **Material** 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: Pump and Treat
Type: Remedial Action
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: Ex Situ
Media/Waste Type: Groundwater
Secondary Media/Waste N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: System Defaults

Technology	Seq. #	Residual Waste Generated	Value	Units
Groundwater Extraction Wells	1	Drill Cuttings	9	Drums
Groundwater Monitoring Well	1	Drill Cuttings	53	Drums
Discharge to POTW	1	Existing Cover	64.81	CY
Groundwater Extraction Wells	1	Drill Cuttings	9	Drums
Groundwater Monitoring Well	1	Drill Cuttings	53	Drums
Discharge to POTW	1	Existing Cover	64.81	CY

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:46:41 AM

Page: 1 of 1

Present Value of Future Cost

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Report Option: Fiscal

Initial Phase Element Start Date: 2/1/2004

Year		1	2	3	4	5	6	7	8	9	10
Fiscal Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cost Type	Description										
Studies	Pre-Design Investigation	\$ 385,481									
Remedial Design	Design	\$ 1,378,246									
Remedial Action	Advanced Oxidation Processes	\$ 421,992									
Remedial Action	Carbon Adsorption (Gas)	\$ 54,417									
Remedial Action	Carbon Adsorption (Liquid)	\$ 52,489									
Remedial Action	Coagulation/Flocculation	\$ 154,824									
Remedial Action	Discharge to POTW	\$ 30,804									
Remedial Action	Groundwater Monitoring Well	\$ 78,076									
Remedial Action	Groundwater Extraction Wells	\$ 105,264									
Remedial Action	Media Filtration	\$ 74,097									
Remedial Action	Miscellaneous Field Installation	\$ 63,254									
Remedial Action	Metals Precipitation	\$ 321,951									
Remedial Action	Metals Precipitation	\$ 292,608									
Remedial Action	Overhead Electrical Distribution	\$ 15,189									
Remedial Action	Off-site Transportation and Waste Disposal	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700
Remedial Action	Professional Labor Management	\$ 3,063,971									
Remedial Action	ION EXCHANGE	\$ 641,230									
Remedial Action	Residual Waste Management	\$ 4,047									
Long Term Monitoring	GW Monitoring	\$ 101,925	\$ 152,811	\$ 152,811	\$ 152,811	\$ 152,811	\$ 131,091	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247
Long Term Monitoring	5 YR Review Year 05						\$ 32,680				
Long Term Monitoring	5 YR Review Year 10										
Long Term Monitoring	5 YR Review Year 15										
Long Term Monitoring	5 YR Review Year 20										
Long Term Monitoring	5 YR Review Year 25										
Long Term Monitoring	5 YR Review Year 30										
O&M	Miscellaneous Support Costs	\$ 1,075,737	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254	
O&M	Groundwater Extraction Wells	\$ 10,046	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221
O&M	Media Filtration	\$ 18,177	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161
O&M	Carbon Adsorption (Liquid)	\$ 32,056	\$ 51,980	\$ 45,396	\$ 40,724	\$ 38,919	\$ 37,942	\$ 37,326	\$ 36,901	\$ 36,590	\$ 36,352
O&M	Coagulation/Flocculation	\$ 40,356	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182
O&M	Metals Precipitation	\$ 45,967	\$ 69,355	\$ 48,437	\$ 33,592	\$ 27,856	\$ 24,752	\$ 22,796	\$ 21,446	\$ 20,458	\$ 19,703
O&M	Metals Precipitation	\$ 95,961	\$ 157,210	\$ 141,060	\$ 129,598	\$ 125,170	\$ 122,773	\$ 121,263	\$ 120,221	\$ 119,458	\$ 118,875
O&M	Advanced Oxidation Processes	\$ 574,867	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486
O&M	Carbon Adsorption (Gas)	\$ 34,426	\$ 56,006	\$ 49,341	\$ 44,611	\$ 42,783	\$ 41,794	\$ 41,170	\$ 40,740	\$ 40,425	\$ 40,185
O&M	Discharge to POTW	\$ 3,647	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252

Present Value of Future Cost

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Report Option: Fiscal

Initial Phase Element Start Date: 2/1/2004

Year		1	2	3	4	5	6	7	8	9	10
Fiscal Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cost Type	Description										
Site Close-out	Site Closeout										
Sub-Total		\$ 9,323,805	\$ 2,885,618	\$ 2,947,040	\$ 2,799,592	\$ 1,649,541	\$ 2,062,987	\$ 2,741,058	\$ 2,849,550	\$ 2,735,434	\$ 1,597,364
Real Discount	6.95%	0.9363	0.8768	0.8209	0.7687	0.7198	0.6739	0.6311	0.5909	0.5533	0.5181
Nominal Discount	8.70%	0.9200	0.8463	0.7786	0.7163	0.6589	0.6062	0.5577	0.5131	0.4720	0.4342
Inflation	1.75%	1.0178	1.0359	1.0544	1.0732	1.0923	1.1117	1.1315	1.1517	1.1722	1.1931
Total		\$ 8,730,338	\$ 2,529,966	\$ 2,419,356	\$ 2,152,020	\$ 1,187,278	\$ 1,390,349	\$ 1,729,751	\$ 1,683,757	\$ 1,513,447	\$ 827,528

Present Value of Future Cost

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Year		11	12	13	14	15	16	17	18	19	20
Fiscal Year		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cost Type	Description										
Studies	Pre-Design Investigation										
Remedial Design	Design										
Remedial Action	Advanced Oxidation Processes										
Remedial Action	Carbon Adsorption (Gas)										
Remedial Action	Carbon Adsorption (Liquid)										
Remedial Action	Coagulation/Flocculation										
Remedial Action	Discharge to POTW										
Remedial Action	Groundwater Monitoring Well										
Remedial Action	Groundwater Extraction Wells										
Remedial Action	Media Filtration										
Remedial Action	Miscellaneous Field Installation										
Remedial Action	Metals Precipitation										
Remedial Action	Metals Precipitation										
Remedial Action	Overhead Electrical Distribution										
Remedial Action	Off-site Transportation and Waste Disposal	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,699	\$ 152,699	\$ 152,699
Remedial Action	Professional Labor Management										
Remedial Action	ION EXCHANGE										
Remedial Action	Residual Waste Management										
Long Term Monitoring	GW Monitoring	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247
Long Term Monitoring	5 YR Review Year 05										
Long Term Monitoring	5 YR Review Year 10	\$ 32,680									
Long Term Monitoring	5 YR Review Year 15						\$ 32,680				
Long Term Monitoring	5 YR Review Year 20										
Long Term Monitoring	5 YR Review Year 25										
Long Term Monitoring	5 YR Review Year 30										
O&M	Miscellaneous Support Costs		\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254	
O&M	Groundwater Extraction Wells	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221
O&M	Media Filtration	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161
O&M	Carbon Adsorption (Liquid)	\$ 36,165	\$ 36,013	\$ 35,887	\$ 35,782	\$ 35,692	\$ 35,615	\$ 35,547	\$ 35,488	\$ 35,435	\$ 35,388
O&M	Coagulation/Flocculation	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182
O&M	Metals Precipitation	\$ 19,107	\$ 18,624	\$ 18,226	\$ 17,891	\$ 17,605	\$ 17,359	\$ 17,144	\$ 16,956	\$ 16,789	\$ 16,640
O&M	Metals Precipitation	\$ 118,415	\$ 118,042	\$ 117,734	\$ 117,475	\$ 117,255	\$ 117,065	\$ 116,899	\$ 116,754	\$ 116,625	\$ 116,510
O&M	Advanced Oxidation Processes	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486
O&M	Carbon Adsorption (Gas)	\$ 39,995	\$ 39,841	\$ 39,714	\$ 39,607	\$ 39,516	\$ 39,438	\$ 39,370	\$ 39,310	\$ 39,256	\$ 39,209
O&M	Discharge to POTW	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252

Present Value of Future Cost

Folder: Parker Landfill
Project Name: 170 GPM Parker Landfill
Project ID: Parker Landfill
Site Name: Alternative 1
Site Type: Groundwater
Site ID: Parker Landfill

Year		11	12	13	14	15	16	17	18	19	20
Fiscal Year		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cost Type	Description										
Site Close-out	Site Closeout										
Sub-Total		\$ 1,628,611	\$ 2,731,023	\$ 2,841,803	\$ 2,729,258	\$ 1,592,317	\$ 2,034,359	\$ 2,727,463	\$ 2,838,749	\$ 2,726,607	\$ 1,589,995
Real Discount	6.95%	0.4851	0.4542	0.4253	0.3982	0.3729	0.3491	0.3269	0.3061	0.2866	0.2684
Nominal Discount	8.70%	0.3995	0.3675	0.3381	0.3110	0.2861	0.2632	0.2422	0.2228	0.2049	0.1885
Inflation	1.75%	1.2143	1.2360	1.2580	1.2804	1.3032	1.3264	1.3500	1.3741	1.3986	1.4235
Total		\$ 790,013	\$ 1,240,452	\$ 1,208,611	\$ 1,086,864	\$ 593,742	\$ 710,287	\$ 891,668	\$ 868,979	\$ 781,524	\$ 426,731

Present Value of Future Cost

Folder: Parker Landfill
 Project Name: 170 GPM Parker Landfill
 Project ID: Parker Landfill
 Site Name: Alternative 1
 Site Type: Groundwater
 Site ID: Parker Landfill

Year		21	22	23	24	25	26	27	28	29	30
Fiscal Year		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Cost Type	Description										
Studies	Pre-Design Investigation										
Remedial Design	Design										
Remedial Action	Advanced Oxidation Processes										
Remedial Action	Carbon Adsorption (Gas)										
Remedial Action	Carbon Adsorption (Liquid)										
Remedial Action	Coagulation/Flocculation										
Remedial Action	Discharge to POTW										
Remedial Action	Groundwater Monitoring Well										
Remedial Action	Groundwater Extraction Wells										
Remedial Action	Media Filtration										
Remedial Action	Miscellaneous Field Installation										
Remedial Action	Metals Precipitation										
Remedial Action	Metals Precipitation										
Remedial Action	Overhead Electrical Distribution										
Remedial Action	Off-site Transportation and Waste Disposal	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699
Remedial Action	Professional Labor Management										
Remedial Action	ION EXCHANGE										
Remedial Action	Residual Waste Management										
Long Term Monitoring	GW Monitoring	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 114,585	\$ 111,758	\$ 111,758	\$ 111,758	\$ 111,758
Long Term Monitoring	5 YR Review Year 05										
Long Term Monitoring	5 YR Review Year 10										
Long Term Monitoring	5 YR Review Year 15										
Long Term Monitoring	5 YR Review Year 20	\$ 32,680									
Long Term Monitoring	5 YR Review Year 25						\$ 32,680				
Long Term Monitoring	5 YR Review Year 30										
O&M	Miscellaneous Support Costs		\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254	
O&M	Groundwater Extraction Wells	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221
O&M	Media Filtration	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161
O&M	Carbon Adsorption (Liquid)	\$ 35,346	\$ 35,308	\$ 35,274	\$ 35,242	\$ 35,213	\$ 35,187	\$ 35,163	\$ 35,140	\$ 35,119	\$ 35,100
O&M	Coagulation/Flocculation	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182
O&M	Metals Precipitation	\$ 16,506	\$ 16,385	\$ 16,276	\$ 16,176	\$ 16,085	\$ 16,001	\$ 15,923	\$ 15,852	\$ 15,786	\$ 15,724
O&M	Metals Precipitation	\$ 116,406	\$ 116,313	\$ 116,229	\$ 116,152	\$ 116,081	\$ 116,016	\$ 115,957	\$ 115,901	\$ 115,850	\$ 115,803
O&M	Advanced Oxidation Processes	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486
O&M	Carbon Adsorption (Gas)	\$ 39,166	\$ 39,128	\$ 39,093	\$ 39,061	\$ 39,032	\$ 39,005	\$ 38,981	\$ 38,958	\$ 38,937	\$ 38,917
O&M	Discharge to POTW	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252

Present Value of Future Cost

Folder: Parker Landfill
Project Name: 170 GPM Parker Landfill
Project ID: Parker Landfill
Site Name: Alternative 1
Site Type: Groundwater
Site ID: Parker Landfill

Year		21	22	23	24	25	26	27	28	29	30
Fiscal Year		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Cost Type	Description										
Site Close-out	Site Closeout										
Sub-Total		\$ 1,622,352	\$ 2,725,636	\$ 2,837,113	\$ 2,725,133	\$ 1,588,659	\$ 2,025,428	\$ 2,716,037	\$ 2,827,603	\$ 2,715,705	\$ 1,579,303
Real Discount	6.95%	0.2513	0.2353	0.2203	0.2063	0.1932	0.1809	0.1694	0.1586	0.1485	0.1390
Nominal Discount	8.70%	0.1735	0.1596	0.1468	0.1350	0.1242	0.1143	0.1051	0.0967	0.0890	0.0819
Inflation	1.75%	1.4488	1.4746	1.5009	1.5276	1.5548	1.5825	1.6107	1.6394	1.6686	1.6983
Total		\$ 407,700	\$ 641,360	\$ 625,098	\$ 562,208	\$ 306,887	\$ 366,355	\$ 460,001	\$ 448,414	\$ 403,257	\$ 219,585

Present Value of Future Cost

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Year		31	
Fiscal Year		2034	
Cost Type	Description		Total
Studies	Pre-Design Investigation		\$ 385,481
Remedial Design	Design		\$ 1,378,246
Remedial Action	Advanced Oxidation Processes		\$ 421,992
Remedial Action	Carbon Adsorption (Gas)		\$ 54,417
Remedial Action	Carbon Adsorption (Liquid)		\$ 52,489
Remedial Action	Coagulation/Flocculation		\$ 154,824
Remedial Action	Discharge to POTW		\$ 30,804
Remedial Action	Groundwater Monitoring Well		\$ 78,076
Remedial Action	Groundwater Extraction Wells		\$ 105,264
Remedial Action	Media Filtration		\$ 74,097
Remedial Action	Miscellaneous Field Installation		\$ 63,254
Remedial Action	Metals Precipitation		\$ 321,951
Remedial Action	Metals Precipitation		\$ 292,608
Remedial Action	Overhead Electrical Distribution		\$ 15,189
Remedial Action	Off-site Transportation and Waste Disposal		\$ 4,580,987
Remedial Action	Professional Labor Management		\$ 3,063,971
Remedial Action	ION EXCHANGE		\$ 641,230
Remedial Action	Residual Waste Management		\$ 4,047
Long Term Monitoring	GW Monitoring	\$ 37,215	\$ 3,727,785
Long Term Monitoring	5 YR Review Year 05		\$ 32,680
Long Term Monitoring	5 YR Review Year 10		\$ 32,680
Long Term Monitoring	5 YR Review Year 15		\$ 32,680
Long Term Monitoring	5 YR Review Year 20		\$ 32,680
Long Term Monitoring	5 YR Review Year 25		\$ 32,680
Long Term Monitoring	5 YR Review Year 30	\$ 32,680	\$ 32,680
O&M	Miscellaneous Support Costs		\$ 23,428,602
O&M	Groundwater Extraction Wells	\$ 7,176	\$ 516,631
O&M	Media Filtration	\$ 12,984	\$ 934,830
O&M	Carbon Adsorption (Liquid)	\$ 14,622	\$ 1,117,912
O&M	Coagulation/Flocculation	\$ 28,826	\$ 2,075,460
O&M	Metals Precipitation	\$ 6,541	\$ 677,958
O&M	Metals Precipitation	\$ 48,243	\$ 3,633,314
O&M	Advanced Oxidation Processes	\$ 410,619	\$ 29,564,580
O&M	Carbon Adsorption (Gas)	\$ 16,212	\$ 1,233,227
O&M	Discharge to POTW	\$ 2,605	\$ 187,560

Present Value of Future Cost

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Year		31	
Fiscal Year		2034	
Cost Type	Description		Total
Site Close-out	Site Closeout	\$ 201,936	\$ 201,936
Sub-Total		\$ 819,659	\$ 79,214,802
Real Discount	6.95%	0.1302	---
Nominal Discount	8.70%	0.0753	---
Inflation	1.75%	1.7286	---
Total		\$ 106,711	\$ 37,310,238

Site Cost Over Time

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Report Option: Fiscal

Initial Phase Element Start Date: 2/1/2004

Year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Calendar Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Phase Element	Phase Element Name																	
Studies	Pre-Design Investigation	\$ 385,481																
Remedial Design	Design	\$ 1,378,248																
Remedial Action	Advanced Oxidation Processes	\$ 421,992																
Remedial Action	Carbon Adsorption (Gas)	\$ 54,417																
Remedial Action	Carbon Adsorption (Liquid)	\$ 52,489																
Remedial Action	Coagulation/Flocculation	\$ 154,824																
Remedial Action	Discharge to POTW	\$ 30,804																
Remedial Action	Groundwater Monitoring Well	\$ 78,076																
Remedial Action	Groundwater Extraction Wells	\$ 105,284																
Remedial Action	Media Filtration	\$ 74,097																
Remedial Action	Miscellaneous Field Installation	\$ 63,254																
Remedial Action	Metals Precipitation	\$ 321,951																
Remedial Action	Metals Precipitation	\$ 292,608																
Remedial Action	Overhead Electrical Distribution	\$ 15,189																
Remedial Action	Off-site Transportation and Waste	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700	\$ 152,700
Remedial Action	Professional Labor Management	\$ 3,063,971																
Remedial Action	ION EXCHANGE	\$ 641,230																
Remedial Action	Residual Waste Management	\$ 4,047																
Long Term Monitoring	GW Monitoring	\$ 101,925	\$ 152,811	\$ 152,811	\$ 152,811	\$ 152,811	\$ 131,091	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247
Long Term Monitoring	5 YR Review Year 05						\$ 32,680											
Long Term Monitoring	5 YR Review Year 10											\$ 32,680						
Long Term Monitoring	5 YR Review Year 15																\$ 32,680	
Long Term Monitoring	5 YR Review Year 20																	
Long Term Monitoring	5 YR Review Year 25																	
Long Term Monitoring	5 YR Review Year 30																	
O&M	Miscellaneous Support Costs	\$ 1,075,737	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254			\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254
O&M	Groundwater Extraction Wells	\$ 10,046	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221
O&M	Media Filtration	\$ 18,177	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161
O&M	Carbon Adsorption (Liquid)	\$ 32,056	\$ 51,980	\$ 45,396	\$ 40,724	\$ 38,919	\$ 37,942	\$ 37,326	\$ 36,901	\$ 36,590	\$ 36,352	\$ 36,165	\$ 36,013	\$ 35,887	\$ 35,782	\$ 35,692	\$ 35,615	\$ 35,547
O&M	Coagulation/Flocculation	\$ 40,356	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182
O&M	Metals Precipitation	\$ 45,967	\$ 69,355	\$ 48,437	\$ 33,592	\$ 27,856	\$ 24,752	\$ 22,796	\$ 21,448	\$ 20,458	\$ 19,703	\$ 19,107	\$ 18,624	\$ 18,226	\$ 17,891	\$ 17,605	\$ 17,359	\$ 17,144
O&M	Metals Precipitation	\$ 95,961	\$ 167,210	\$ 141,080	\$ 129,598	\$ 125,170	\$ 122,773	\$ 121,263	\$ 120,221	\$ 119,458	\$ 118,875	\$ 118,415	\$ 118,042	\$ 117,734	\$ 117,475	\$ 117,255	\$ 117,065	\$ 116,899
O&M	Advanced Oxidation Processes	\$ 574,867	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486
O&M	Carbon Adsorption (Gas)	\$ 34,426	\$ 56,006	\$ 49,341	\$ 44,611	\$ 42,783	\$ 41,794	\$ 41,170	\$ 40,740	\$ 40,425	\$ 40,185	\$ 39,895	\$ 39,841	\$ 39,714	\$ 39,807	\$ 39,516	\$ 39,438	\$ 39,370
O&M	Discharge to POTW	\$ 3,647	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252
Site Close-out	Site Closeout																	
Current Work Estimate (CWE)		\$ 9,323,805	\$ 2,885,618	\$ 2,947,040	\$ 2,799,592	\$ 1,840,541	\$ 2,062,987	\$ 2,741,058	\$ 2,840,550	\$ 2,735,434	\$ 1,597,384	\$ 1,628,611	\$ 2,731,023	\$ 2,841,803	\$ 2,729,258	\$ 1,592,317	\$ 2,034,359	\$ 2,727,463
Super. & Admin. (S&A)	8.00%	\$ 745,904	\$ 230,849	\$ 235,763	\$ 223,967	\$ 131,063	\$ 165,030	\$ 219,285	\$ 227,064	\$ 218,835	\$ 127,789	\$ 130,289	\$ 218,482	\$ 227,344	\$ 218,341	\$ 127,385	\$ 162,749	\$ 218,197
Super. & Review (S&R)	3.50%	\$ 326,333	\$ 100,997	\$ 103,146	\$ 97,886	\$ 57,734	\$ 72,205	\$ 95,937	\$ 99,734	\$ 95,740	\$ 56,908	\$ 57,001	\$ 95,586	\$ 99,463	\$ 95,524	\$ 55,731	\$ 71,203	\$ 95,461
Eng. Des./Const.	1.50%	\$ 139,857	\$ 43,284	\$ 44,206	\$ 41,994	\$ 24,743	\$ 30,945	\$ 41,116	\$ 42,743	\$ 41,032	\$ 23,960	\$ 24,429	\$ 40,965	\$ 42,627	\$ 40,939	\$ 23,885	\$ 30,515	\$ 40,912
Escalation Factor		1.0322	1.0549	1.0781	1.1019	1.1262	1.151	1.1764	1.2023	1.2290	1.2548	1.281	1.3072	1.3334	1.3596	1.3859	1.4121	1.4383
Program Amount		\$ 10,875,156	\$ 3,439,763	\$ 3,590,240	\$ 3,485,904	\$ 2,099,216	\$ 2,683,183	\$ 3,843,776	\$ 3,871,396	\$ 3,797,852	\$ 2,264,941	\$ 2,357,463	\$ 4,034,092	\$ 4,281,864	\$ 4,193,090	\$ 2,493,675	\$ 3,246,172	\$ 4,432,889

Site Cost Over Time

Folder: Parker Landfill

Project Name: 170 GPM Parker Landfill

Project ID: Parker Landfill

Site Name: Alternative 1

Site Type: Groundwater

Site ID: Parker Landfill

Year		18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Calendar Year		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Phase Element	Phase Element Name															
Studies	Pre-Design Investigation															\$ 385,481
Remedial Design	Design															\$ 1,378,246
Remedial Action	Advanced Oxidation Processes															\$ 421,992
Remedial Action	Carbon Adsorption (Gas)															\$ 54,417
Remedial Action	Carbon Adsorption (Liquid)															\$ 52,489
Remedial Action	Coagulation/Flocculation															\$ 154,824
Remedial Action	Discharge to POTW															\$ 30,804
Remedial Action	Groundwater Monitoring Well															\$ 78,076
Remedial Action	Groundwater Extraction Wells															\$ 105,264
Remedial Action	Media Filtration															\$ 74,097
Remedial Action	Miscellaneous Field Installation															\$ 63,254
Remedial Action	Metals Precipitation															\$ 321,951
Remedial Action	Metals Precipitation															\$ 292,608
Remedial Action	Overhead Electrical Distribution															\$ 15,189
Remedial Action	Off-site Transportation and Waste	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 152,699	\$ 4,580,987
Remedial Action	Professional Labor Management															\$ 3,063,971
Remedial Action	ION EXCHANGE															\$ 641,230
Remedial Action	Residual Waste Management															\$ 4,047
Long Term Monitoring	GW Monitoring	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 120,247	\$ 114,585	\$ 111,758	\$ 111,758	\$ 111,758	\$ 111,758	\$ 37,215	\$ 3,727,785
Long Term Monitoring	5 YR Review Year 05															\$ 32,680
Long Term Monitoring	5 YR Review Year 10															\$ 32,680
Long Term Monitoring	5 YR Review Year 15															\$ 32,680
Long Term Monitoring	5 YR Review Year 20				\$ 32,680											\$ 32,680
Long Term Monitoring	5 YR Review Year 25									\$ 32,680						\$ 32,680
Long Term Monitoring	5 YR Review Year 30														\$ 32,680	\$ 32,680
O&M	Miscellaneous Support Costs	\$ 1,247,993	\$ 1,136,254			\$ 1,136,254	\$ 1,247,993	\$ 1,136,254		\$ 409,953	\$ 1,136,254	\$ 1,247,993	\$ 1,136,254			\$ 23,426,602
O&M	Groundwater Extraction Wells	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 17,221	\$ 516,631
O&M	Media Filtration	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 31,161	\$ 934,830
O&M	Carbon Adsorption (Liquid)	\$ 35,488	\$ 35,435	\$ 35,388	\$ 35,348	\$ 35,308	\$ 35,274	\$ 35,242	\$ 35,213	\$ 35,187	\$ 35,163	\$ 35,140	\$ 35,119	\$ 35,100	\$ 35,081	\$ 1,117,912
O&M	Coagulation/Flocculation	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 69,182	\$ 2,075,460
O&M	Metals Precipitation	\$ 16,956	\$ 16,789	\$ 16,640	\$ 16,506	\$ 16,385	\$ 16,276	\$ 16,176	\$ 16,085	\$ 16,001	\$ 15,923	\$ 15,852	\$ 15,786	\$ 15,724	\$ 15,661	\$ 677,958
O&M	Metals Precipitation	\$ 116,754	\$ 116,625	\$ 116,510	\$ 116,406	\$ 116,313	\$ 116,229	\$ 116,152	\$ 116,081	\$ 116,016	\$ 115,957	\$ 115,901	\$ 115,850	\$ 115,803	\$ 115,756	\$ 3,633,314
O&M	Advanced Oxidation Processes	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 985,486	\$ 29,564,580
O&M	Carbon Adsorption (Gas)	\$ 39,310	\$ 39,256	\$ 39,209	\$ 39,166	\$ 39,128	\$ 39,093	\$ 39,061	\$ 39,032	\$ 39,005	\$ 38,981	\$ 38,958	\$ 38,937	\$ 38,917	\$ 38,897	\$ 1,233,227
O&M	Discharge to POTW	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 6,252	\$ 187,580
Site Close-out	Site Closeout															\$ 201,936
Current Work Estimate (CWE)		\$ 2,838,749	\$ 2,726,607	\$ 1,589,995	\$ 1,622,352	\$ 2,725,636	\$ 2,837,113	\$ 2,725,133	\$ 1,588,659	\$ 2,025,428	\$ 2,716,037	\$ 2,827,603	\$ 2,715,705	\$ 1,579,303	\$ 819,859	\$ 79,214,802
Super. & Admin. (S&A)	8.00%	\$ 227,100	\$ 216,129	\$ 127,200	\$ 129,788	\$ 218,061	\$ 226,999	\$ 218,011	\$ 127,093	\$ 162,034	\$ 217,283	\$ 226,208	\$ 217,258	\$ 126,344	\$ 65,573	
Super. & Review (S&R)	3.50%	\$ 99,356	\$ 95,431	\$ 55,650	\$ 56,792	\$ 95,397	\$ 99,299	\$ 95,380	\$ 55,603	\$ 70,890	\$ 95,061	\$ 98,968	\$ 95,050	\$ 56,276	\$ 28,888	
Eng. Des./Const.	1.50%	\$ 42,581	\$ 40,899	\$ 23,850	\$ 24,335	\$ 40,885	\$ 42,557	\$ 40,877	\$ 23,830	\$ 30,381	\$ 40,741	\$ 42,414	\$ 40,736	\$ 23,690	\$ 12,295	
Escalation Factor		1.4645	1.4907	1.5169	1.5431	1.5694	1.5956	1.6218	1.648	1.6742	1.7004	1.7267	1.7529	1.7791	1.8053	
Program Amount		\$ 4,697,803	\$ 4,592,945	\$ 2,725,406	\$ 2,828,900	\$ 4,833,703	\$ 5,115,394	\$ 4,994,171	\$ 2,958,464	\$ 3,831,798	\$ 5,216,735	\$ 5,517,137	\$ 5,379,206	\$ 3,175,004	\$ 1,672,095	\$ 122,331,233

Site Cost Summary Report (with Markups)

Folder: Parker Landfill R05

Project

Name: 170 GPM Parker Landfill
ID: 170 GPM Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers: **Material** 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label48
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

<u>Phase</u>	<u>Direct Cost</u>	<u>Markups</u>	<u>Total Cost</u>
Studies	\$128,763	\$256,718	\$385,481
Remedial Design	\$873,650	\$504,596	\$1,378,246
Remedial Action (Capital)	\$6,310,456	\$3,644,744	\$9,955,200
Operations & Maintenance	\$45,755,888	\$17,614,204	\$63,370,092
Operations & Maintenance	\$0	\$0	\$0
Long Term Monitoring	\$2,291,281	\$1,632,583	\$3,923,864
Site Close-out	\$75,135	\$126,801	\$201,936
Total Site Cost	\$55,435,173	\$23,779,647	\$79,214,820
		Escalation	\$27,356,948
		Escalated Site Cost	\$106,571,768

Cost Database Date: 2003

Cost Type: User-Defined

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Site Cost Detail Report (with Markups)

Folder: Parker Landfill R05

Project

Name: 170 GPM Parker Landfill

ID: 170 GPM Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation

Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element	Prime					Risk	Owner Cost	Markup Total	Total
	Direct Cost	General Conditions	Overhead	Sub Profit	Markup on Sub				
(Markup Template)									
5 YR Review Year 05	\$11,310								
(System Defaults)		\$1,525	\$15,985	\$0	\$0	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 10	\$11,310								
(System Defaults)		\$1,525	\$15,985	\$0	\$0	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 15	\$11,310								
(System Defaults)		\$1,525	\$15,985	\$0	\$0	\$0	\$1,504	\$21,370	\$32,680

Cost Database Date: 2003

Cost Type: User-Defined

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Site Cost Detail Report (with Markups)

Phase Element	Prime									
	Direct Cost	General Conditions	Overhead	Sub Profit	Markup on Sub	Prime Profit	Risk	Owner Cost	Markup Total	Total
(Markup Template)										
5 YR Review Year 20 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 25 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
5 YR Review Year 30 (System Defaults)	\$11,310	\$1,525	\$15,985	\$0	\$0	\$2,356	\$0	\$1,504	\$21,370	\$32,680
GW Monitoring (System Defaults)	\$2,223,421	\$175,587	\$873,131	\$0	\$0	\$278,132	\$0	\$177,514	\$1,504,363	\$3,727,784
O&M (System Defaults)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M (O&M) (System Defaults)	\$45,755,888	\$2,310,014	\$7,579,686	\$0	\$0	\$4,715,137	\$0	\$3,009,367	\$17,614,204	\$63,370,092
Pre-Design Investigation (System Defaults)	\$128,763	\$6,467	\$203,134	\$0	\$0	\$28,761	\$0	\$18,356	\$256,718	\$385,481
Pump and Treat (System Defaults)	\$6,310,456	\$328,111	\$2,099,814	\$0	\$0	\$742,762	\$0	\$474,057	\$3,644,744	\$9,955,200
Pump and Treat - Remedial Design (20%)	\$873,650								\$504,596	\$1,378,246
Site Closeout (System Defaults)	\$75,135	\$4,813	\$98,701	\$0	\$0	\$14,215	\$0	\$9,072	\$126,801	\$201,936

Cost Database Date: 2003

Cost Type: User-Defined

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Site Cost Detail Report (with Markups)

Phase Element	Prime									
	Direct Cost	General Conditions	Overhead	Sub Profit	Markup on Sub	Prime Profit	Risk	Owner Cost	Markup Total	Total
(Markup Template)										
Total Site Cost	\$55,435,173	\$2,834,141	\$10,950,375	\$0	\$0	\$5,793,144	\$0	\$3,697,389	\$23,779,647	\$79,214,820
Escalation										\$27,356,948
Escalated Site Cost										\$106,571,768

Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 170 GPM Parker Landfill
ID: 170 GPM Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers: **Material** 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: Pre-Design Investigation
Type: Studies
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: None
Start Date: 2/1/2004

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds
(VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:41:36 PM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Remedial Investigation

Element: Scoping

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	20.00	MI	0.34	0.00	0.00	\$6.87	
33220102	Project Manager	100.00	HR	0.00	37.28	0.00	\$3,727.98	
33220105	Project Engineer	400.00	HR	0.00	27.60	0.00	\$11,040.12	
33220106	Staff Engineer	400.00	HR	0.00	21.99	0.00	\$8,797.12	
33220108	Project Scientist	300.00	HR	0.00	22.44	0.00	\$6,731.94	
33220109	Staff Scientist	500.00	HR	0.00	21.42	0.00	\$10,709.70	
33220110	QA/QC Officer	50.00	HR	0.00	48.79	0.00	\$2,439.32	
33220111	Certified Industrial Hygienist	50.00	HR	0.00	41.88	0.00	\$2,093.83	
33220114	Word Processing/Clerical	58.00	HR	0.00	12.41	0.00	\$719.80	
33220115	Draftsman/CADD	50.00	HR	0.00	19.23	0.00	\$961.64	
33240101	Other Direct Costs	1.00	LS	285.91	0.00	0.00	\$285.91	
Total Element Cost							\$47,514.23	

Element: Site Characterization

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010104	Car or Van Mileage Charge	40.00	MI	0.34	0.00	0.00	\$13.75	
33220102	Project Manager	107.00	HR	0.00	37.28	0.00	\$3,988.94	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/19/2004 2:41:36 PM

Phase Element Technology Cost Detail Report (without Markups)

Element: Site Characterization

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220103	Office Manager	43.00	HR	0.00	53.05	0.00	\$2,281.27	
33220105	Project Engineer	66.00	HR	0.00	27.60	0.00	\$1,821.62	
33220106	Staff Engineer	500.00	HR	0.00	21.99	0.00	\$10,996.40	
33220108	Project Scientist	237.00	HR	0.00	22.44	0.00	\$5,318.23	
33220109	Staff Scientist	1,798.00	HR	0.00	21.42	0.00	\$38,512.08	
33220110	QA/QC Officer	86.00	HR	0.00	48.79	0.00	\$4,195.63	
33220111	Certified Industrial Hygienist	51.00	HR	0.00	41.88	0.00	\$2,135.71	
33220112	Field Technician	201.00	HR	0.00	14.98	0.00	\$3,010.20	
33220114	Word Processing/Clerical	288.00	HR	0.00	12.41	0.00	\$3,574.20	
33220115	Draftsman/CADD	198.00	HR	0.00	19.23	0.00	\$3,808.07	
33240101	Other Direct Costs	1.00	LS	1,593.12	0.00	0.00	\$1,593.12	
Total Element Cost							\$81,249.22	
Total 1st Year Technology Cost							\$128,763.45	
Total Phase Element Cost							\$128,763.45	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Cost Summary Report (with Markups)

Folder: Parker Landfill R04

Project

Name: 170 GPM Parker Landfill

ID: 170 GPM Parker Landfill

Location: VERMONT STATE AVERAGE, VERMONT

Modifiers: **Material** 1.0001 (Modified)

Labor 0.7743 (Modified)

Equipment 1.0881 (Modified)

Category: Groundwater Remediation
Label45

Report Option: Fiscal Year

Site

Name: Alternative 1

ID: Parker Landfill

Type: Groundwater

Description: Groundwater Pump and Treat

Phase Element

Name: Design

Type: Remedial Design

Start Date: 2/1/2004

Phase Element Cost Summary Report (with Markups)

Phase Name	Phase	Approach	Capital Costs	Design %	RD Cost
Pump and Treat	Remedial Action	None	\$6,891,229	20%	\$1,378,246
Total Phase Element Cost					\$1,378,246
Escalation					\$44,379
Escalated Phase Element Cost					\$1,422,626

Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R05

Project

Name: 170 GPM Parker Landfill
ID: 170 GPM Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: Pump and Treat
Type: Remedial Action
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: Ex Situ
Start Date: 2/1/2004

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: N/A

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Groundwater Extraction Wells

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
17020203	Demolish Bituminous Pavement with Air Equipment	0.80	CY	0.00	22.98	7.88	\$24.69	
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	633.79	2,231.86	\$2,865.66	
33020303	Organic Vapor Analyzer Rental, per Day	9.00	DAY	110.11	0.00	0.00	\$990.99	
33109660	5,000 Gallon Single-wall Steel Aboveground Tank	1.00	EA	4,200.42	973.18	195.21	\$5,368.81	
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	7.00	DAY	104.11	0.00	0.00	\$728.77	
33220112	Field Technician	48.00	HR	0.00	14.98	0.00	\$718.85	
33230103	6" PVC, Schedule 40, Well Casing	400.00	LF	3.82	3.04	10.71	\$7,030.16	
33230157	2" Pitless Adapter	4.00	EA	179.89	0.00	16.80	\$786.76	
33230203	6" PVC, Schedule 40, Well Screen	52.00	LF	8.70	5.07	17.85	\$1,644.38	
33230303	6" PVC, Well Plug	4.00	EA	58.56	7.92	27.90	\$377.53	
33230550	4" Submersible Pump, 33-55 GPM, 161' < Head <= 220', 3 hp, w/ controls	4.00	EA	3,111.17	0.00	0.00	\$12,444.69	
33231152	Air Rotary, 10" Dia Borehole (Unconsolidated), 100 ft < Depth <= 500 ft	452.00	LF	0.00	14.48	51.00	\$29,599.54	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33231172	Split Spoon Sample, 2" x 24", During Drilling	46.00	EA	39.78	0.00	0.00	\$1,829.87	
33231182	Furnish 55 Gallon Drum for Drill Cuttings & Development Water	23.00	EA	72.51	0.00	0.00	\$1,667.67	
33231186	Well Development Equipment Rental (weekly)	4.00	WK	219.02	0.00	0.00	\$876.09	
33231403	6" Screen, Filter Pack	52.00	LF	7.28	4.60	16.18	\$1,458.68	
33231813	6" Well, Portland Cement Grout	96.00	LF	9.00	0.00	0.00	\$864.07	
33232103	6" Well, Bentonite Seal	4.00	EA	33.80	28.52	100.43	\$651.03	
33232206	Restricted Area, Well Protection (with 4 Posts & Explosionproof Receptacle)	4.00	EA	518.55	237.89	1.81	\$3,033.00	
33260202	2" Stainless Steel Piping, Schedule 40, Threaded	200.00	LF	16.20	7.72	0.00	\$4,782.94	
Total Element Cost							\$77,744.16	
Total 1st Year Technology Cost							\$77,744.16	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Media Filtration

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020324	12" Structural Slab on Grade	242.00	SF	4.97	2.49	0.45	\$1,914.10	
33130105	7' Diameter Electric Automatic Pressure Filter Unit	2.00	EA	18,501.09	2,500.82	1,412.67	\$44,829.15	
33260203	3" Stainless Steel Piping, Schedule 40, Threaded	200.00	LF	33.61	11.57	0.00	\$9,036.40	
Total Element Cost							\$55,779.65	
Total 1st Year Technology Cost							\$55,779.65	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Carbon Adsorption (Liquid)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020322	8" Structural Slab on Grade	100.00	SF	3.74	2.23	0.41	\$638.43	
33132025	200 GPM, 6,000 Lb Fill, High-density Polyethylene-lined Steel, Permanent	2.00	EA	16,001.60	888.75	357.88	\$34,496.44	
33290125	200 GPM, 10 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,899.52	1,055.75	0.00	\$4,955.28	
Total Element Cost							\$40,090.15	
Total 1st Year Technology Cost							\$40,090.15	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Overhead Electrical Distribution

Element: N/A

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
20020301	1/0 ACSR Conductor	636.00	LF	0.21	0.44	0.06	\$451.43	
20020310	1/C #2 Aluminum, Bare, Wire	282.00	LF	0.16	0.43	0.06	\$180.99	
20020402	35' Class 3 Treated Power Pole	2.00	EA	284.26	227.56	44.89	\$1,113.43	
20020430	Terminal Structure, 5 KV Pole Top	2.00	EA	1,188.65	855.93	168.84	\$4,426.83	
20020511	5 KV, 3/0, Shielded Cable, Copper	105.00	LF	2.58	1.10	0.22	\$409.56	
20020545	5 KV, 1/0 to 4/0 Conductor, Terminations & Splicing	6.00	EA	458.79	170.87	0.00	\$3,777.97	
20039902	4" Rigid Steel Conduit	35.00	LF	9.09	6.89	0.00	\$559.20	
Total Element Cost							\$10,919.41	
Total 1st Year Technology Cost							\$10,919.41	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Residual Waste Management

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33190103	Load Drums on Disposal Vehicle	70.00	EA	0.00	1.46	1.64	\$216.98	
33190204	Transport 55 Gallon Drums of Hazardous Waste, Max 80 drums (per Mile)	150.00	MI	1.58	0.00	0.00	\$237.03	
33190205	Transport Bulk Solid Hazardous Waste, Maximum 20 CY (per Mile)	150.00	MI	1.52	0.00	0.00	\$228.03	
33190317	Waste Stream Evaluation Fee, Not Including 50% Rebate on 1st Shipment	2.00	EA	435.04	0.00	0.00	\$870.09	
33190350	State Disposal Tax (Non-Hazardous, Non-leaking Drums)	70.00	EA	5.00	0.00	0.00	\$350.00	
33190352	State Disposal Tax (Non-Hazardous Bulk Solid)	2.00	CY	5.00	0.00	0.00	\$10.00	
33197205	Landfill Nonhazardous Solid Waste, 55 Gallon Drum	70.00	EA	13.50	0.00	0.00	\$945.00	
33197270	Landfill Nonhazardous Solid Bulk Waste by CY	2.00	CY	131.30	0.00	0.00	\$262.60	
Total Element Cost							\$3,119.73	
Total 1st Year Technology Cost							\$3,119.73	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Professional Labor Management

Element: Professional Labor Percentage

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost Override
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	
33220138	Project Management Labor Cost	1.00	LS	0.00	198,583.66	0.00	\$198,583.66	
33220139	Planning Documents Labor Cost	1.00	LS	0.00	218,442.02	0.00	\$218,442.02	
33220140	Construction Oversight Labor Cost	1.00	LS	0.00	297,875.47	0.00	\$297,875.47	
33220141	Reporting Labor Cost	1.00	LS	0.00	33,097.27	0.00	\$33,097.27	
33220142	As-Built Drawings Labor Cost	1.00	LS	0.00	33,097.27	0.00	\$33,097.27	
33220143	Public Notice Labor Cost	1.00	LS	0.00	3,309.73	0.00	\$3,309.73	
33220144	Site Closure Activities Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220145	Permitting Labor Cost	1.00	LS	0.00	230,486.38	0.00	\$230,486.38	
33220146	Responsible Party Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220147	Reimbursement Claims Preparation Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
33220148	Other Labor Cost	1.00	LS	0.00	0.00	0.00	\$0.00	
Total Element Cost							\$1,014,891.79	
Total 1st Year Technology Cost							\$1,014,891.79	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Groundwater Monitoring Well

Element: Aquifer 1

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33020303	Organic Vapor Analyzer Rental, per Day	13.00	DAY	110.11	0.00	0.00	\$1,431.44	
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	13.00	DAY	104.11	0.00	0.00	\$1,353.44	
33220112	Field Technician	208.00	HR	0.00	14.98	0.00	\$3,115.03	
33230101	2" PVC, Schedule 40, Well Casing	900.00	LF	1.10	2.11	7.44	\$9,583.02	
33230201	2" PVC, Schedule 40, Well Screen	100.00	LF	2.53	2.73	9.60	\$1,485.19	
33230301	2" PVC, Well Plug	10.00	EA	5.33	3.17	11.16	\$196.57	
33231101	Hollow Stem Auger, 8" Dia Borehole, Depth <= 100 ft	1,010.00	LF	0.00	5.79	20.40	\$26,456.24	
33231182	Furnish 55 Gallon Drum for Drill Cuttings & Development Water	53.00	EA	72.51	0.00	0.00	\$3,842.89	
33231401	2" Screen, Filter Pack	120.00	LF	2.84	1.80	6.32	\$1,315.51	
33231811	2" Well, Portland Cement Grout	870.00	LF	1.06	0.00	0.00	\$921.24	
33232101	2" Well, Bentonite Seal	10.00	EA	8.45	7.13	25.11	\$406.89	
Total Element Cost							\$50,107.46	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: General Aquifers

Assembly	Description	Quantity	Unit of	Material	Labor	Equipment	Extended	Cost
			Measure	Unit Cost	Unit Cost	Unit Cost	Cost	Override
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	633.79	2,231.86	\$2,865.66	
33231504	Surface Pad, Concrete, 2' x 2' x 4"	10.00	EA	37.02	66.05	4.21	\$1,072.83	
Total Element Cost							\$3,938.48	
Total 1st Year Technology Cost							\$54,045.94	

Cost Database Date: 2003

Cost Type: User-Defined

Print Date: 5/20/2004 10:50:28 AM

Phase Element Technology Cost Detail Report (without Markups)

Technology: Coagulation/Flocculation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020324	12" Structural Slab on Grade	400.00	SF	4.97	2.49	0.45	\$3,163.80	
19010206	3", Class 200, PVC Piping	200.00	LF	0.87	4.20	0.43	\$1,100.94	
33130405	25' Diameter, 208 GPM, Waste Flow, Contact Clarifier	1.00	EA	67,506.75	28,803.33	12,796.32	\$109,106.40	
Total Element Cost							\$113,371.14	
Total 1st Year Technology Cost							\$113,371.14	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Metals Precipitation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020322	8" Structural Slab on Grade	900.00	SF	3.74	2.23	0.41	\$5,745.87	
33021514	pH/ORP Output Card Dual Propor Alarm	1.00	EA	94.51	22.43	0.00	\$116.93	
33021515	pH/ORP Input Card Isolated 0/4-20 mA	1.00	EA	149.35	22.43	0.00	\$171.77	
33021518	pH Controller with Isolated 4-20 mA Output	1.00	EA	1,254.27	22.43	0.00	\$1,276.70	
33021519	pH Pump Pulsar Board for Controller	1.00	EA	252.02	22.43	0.00	\$274.45	
33021520	Analog pH Analyzer with 2 - 12 pH Dials	2.00	EA	674.39	11.21	0.00	\$1,371.20	
33021523	pH Coax Cable (12')	2.00	EA	103.99	11.21	0.00	\$230.41	
33021524	Submersion Assembly	2.00	EA	227.52	11.21	0.00	\$477.46	
33120606	Pumping System	1.00	EA	1,925.19	0.00	0.00	\$1,925.19	
33120611	100 GPM Continuous Neutralization System	1.00	EA	105,155.51	0.00	0.00	\$105,155.51	
33130404	20' Diameter, 130 GPM, Waste Flow, Contact Clarifier	1.00	EA	64,006.40	24,688.57	10,968.27	\$99,663.24	
33260303	3" Polypropylene Pipe Including Fittings	50.00	LF	2.70	4.31	0.00	\$350.54	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33290123	100 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,433.52	828.83	0.00	\$4,262.35	
Total Element Cost							\$221,021.62	
Total 1st Year Technology Cost							\$221,021.62	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Metals Precipitation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021524	Submersion Assembly	2.00	EA	227.52	11.21	0.00	\$477.46	
33120606	Pumping System	1.00	EA	1,925.19	0.00	0.00	\$1,925.19	
33120611	100 GPM Continuous Neutralization System	1.00	EA	105,155.51	0.00	0.00	\$105,155.51	
33130404	20' Diameter, 130 GPM, Waste Flow, Contact Clarifier	1.00	EA	64,006.40	24,688.57	10,968.27	\$99,663.24	
33260303	3" Polypropylene Pipe Including Fittings	50.00	LF	2.70	4.31	0.00	\$350.54	
33290123	100 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,433.52	828.83	0.00	\$4,262.35	
33333011	2 CF Filter Press system w/sludge tanks,pumps,mixers,sludge cart	1.00	EA	32,458.37	0.00	0.00	\$32,458.37	
Total Element Cost							\$244,292.66	
Total 1st Year Technology Cost							\$244,292.66	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Advanced Oxidation Processes

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020321	6" Structural Slab on Grade	1,500.00	SF	2.53	1.75	0.19	\$6,700.80	
19040437	2,200 Gallon Conical Bottom Vertical XLPE Tank	2.00	EA	3,008.66	94.81	11.18	\$6,229.31	
19040444	2,200 Gallon Conical Tank Stand	2.00	EA	1,931.70	0.00	0.00	\$3,863.39	
33120803	Peroxide System Mob/Assembly/Shakedown	1.00	EA	9,707.46	0.00	0.00	\$9,707.46	
33120805	Operator Health and Safety Course	1.00	EA	408.37	965.21	0.00	\$1,373.58	
33120824	125 KW High Intensity Ultraviolet, H2O2 Capital Equipment	1.00	EA	208,266.99	13,305.60	27,271.46	\$248,844.05	
33120848	Fugitive Emission Control System	1.00	EA	23,335.24	1,434.92	2,941.04	\$27,711.19	
33130116	0 - 50 GPM Cartridge Filter Equipment	4.00	EA	2,209.33	41.03	0.00	\$9,001.43	
33260203	3" Stainless Steel Piping, Schedule 40, Threaded	100.00	LF	33.61	11.57	0.00	\$4,518.20	
33290125	200 GPM, 10 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	3,899.52	1,055.75	0.00	\$4,955.28	
Total Element Cost							\$322,904.68	
Total 1st Year Technology Cost							\$322,904.68	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Carbon Adsorption (Gas)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
18020324	12" Structural Slab on Grade	80.00	SF	4.97	2.49	0.45	\$632.76	
33021501	Saturation Indicator	2.00	EA	45.00	0.00	0.00	\$90.01	
33131981	Dual Bed,1000 CFM Series/2000 CFM Parallel,2000 Lb Fill each	2.00	EA	20,646.45	0.00	0.00	\$41,292.90	
33310209	Pressure Gauge	2.00	EA	64.22	33.64	0.00	\$195.71	
Total Element Cost							\$42,211.38	
Total 1st Year Technology Cost							\$42,211.38	

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Discharge to POTW

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
17010107	Medium Brush, Medium Trees, Clear, Grub, Haul	1.00	ACRE	0.00	3,000.24	3,220.75	\$6,220.99	
17030259	Cat 225, 1.5 CY, Soil/Sand, Trenching	278.00	CY	0.00	0.33	0.59	\$255.01	
17030260	Cat 225, 1.5 CY, Soil/Sand, 10' - 20' Deep Trench Box, Trench	278.00	CY	0.97	1.09	1.96	\$1,116.14	
17030272	Pull Trench Box, Cat 225, 1.5 CY, Soil/Sand, Trenching	278.00	CY	0.48	1.09	1.96	\$981.51	
17030401	950, 3.00 CY, Backfill with Excavated Material	270.00	CY	0.00	0.41	0.73	\$309.39	
17031001	Wellpoint for Trench, Install & Remove <500', 1 Month	5.00	LFHD	60.94	0.00	0.00	\$304.72	
18050402	Seeding, Vegetative Cover	1.00	ACRE	3,408.77	61.45	59.23	\$3,529.44	
19020126	6" PVC Pipe Sanitary	1,000.00	LF	2.48	3.50	2.05	\$8,021.10	
33197101	Sewer Connection Fee	1.00	EA	1,500.00	0.00	0.00	\$1,500.00	
Total Element Cost							\$22,238.30	
Total 1st Year Technology Cost							\$22,238.30	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Off-site Transportation and Waste Disposal

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33190101	Liquid Loading Into 5,000 Gallon Bulk Tank Truck	274.00	EA	0.00	212.53	115.34	\$89,835.67	
33190255	Tanker Trailer Transport Hazardous Waste 300 - 399 Miles	82,200.00	MI	2.24	0.00	0.00	\$184,144.44	
33197278	Landfill Nonhazardous Nonfuel Liquid/Sludge	1,368,750.00	GAL	2.39	0.00	0.00	\$3,271,312.50	
Total Element Cost							\$3,545,292.61	
Total 1st Year Technology Cost							\$3,545,292.61	

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Miscellaneous Field Installation

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33430201	Miscellaneous Minor Field Installation	1.00	LS	49,134.68	0.00	0.00	\$49,134.68	
Total Element Cost							\$49,134.68	
Total 1st Year Technology Cost							\$49,134.68	

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Phase Element Technology Cost Detail Report (without Markups)

Technology: ION EXCHANGE

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021511	Water Flowmeter	6.00	EA	75.01	0.00	0.00	\$450.05	
33021512	pH Chemical Feed Controller without Input Card	1.00	EA	810.90	0.00	0.00	\$810.90	
33021514	pH/ORP Output Card Dual Propor Alarm	1.00	EA	94.51	22.43	0.00	\$116.93	
33021519	pH Pump Pulser Board for Controller	1.00	EA	252.02	22.43	0.00	\$274.45	
33021520	Analog pH Analyzer with 2 - 12 pH Dials	1.00	EA	674.39	11.21	0.00	\$685.60	
33021521	pH Coax Cable (4')	1.00	EA	66.74	11.21	0.00	\$77.95	
33109650	Control Panel, 1 - 8 Single-wall Tanks, Monitoring System	1.00	EA	2,225.22	0.00	0.00	\$2,225.22	
33109724	30,000 Gallon Double-walled Storage Tank, Leak Detection Sensor	2.00	EA	4,355.70	0.00	0.00	\$8,711.39	
33130416	1/3 HP, Single Propeller 4" Diameter Mixer	1.00	EA	1,516.79	44.56	0.00	\$1,561.35	
33290124	150 GPM, 5 HP, Transfer Pump with Motor, Valves, Piping	1.00	EA	4,112.90	1,639.35	0.00	\$5,752.25	
33310206	30 HP, 240 Gallon, 200 PSI, 143 SCFM, Air Compressor	1.00	EA	12,477.63	1,128.79	0.00	\$13,606.42	

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Phase Element Technology Cost Detail Report (without Markups)

Element: N/A

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33330102	Sodium Hydroxide Solution, 700 Lb Drummed Liquid	50.00	EA	133.01	5.72	3.77	\$7,125.21	
33430201	Miscellaneous Minor Field Installation	1.00	LS	0.00	0.00	452,000.00	\$452,000.00	
Total Element Cost							\$493,397.72	
Total 1st Year Technology Cost							\$493,397.72	
Total Phase Element Cost							\$6,310,455.62	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Folder: Parker Landfill R04

Project

Name: 170 GPM Parker Landfill
ID: 170 GPM Parker Landfill
Location: VERMONT STATE AVERAGE, VERMONT
Modifiers:
 Material 1.0001 (Modified)
 Labor 0.7743 (Modified)
 Equipment 1.0881 (Modified)
Category: Groundwater Remediation
 Label45
Report Option: Fiscal Year

Site

Name: Alternative 1
ID: Parker Landfill
Type: Groundwater
Description: Groundwater Pump and Treat

Phase Element

Name: O&M
Type: Operations & Maintenance
Labor Rate Group: System Labor Rate
Analysis Rate Group: System Analysis Rate
Approach: Ex Situ
Start Date: 2/1/2004

Media/Waste Type: Groundwater
Secondary Media/Waste Type: N/A
Contaminant: Volatile Organic Compounds (VOCs)
Secondary Contaminant: None
Markup Template: System Defaults
O&M Markup Template: System Defaults

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Technology: Operations and Maintenance (12 - months only)

Element: Miscellaneous

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33010202	Per Diem (per person)	72.00	DAY	109.80	0.00	0.00	\$7,905.60	
33010206	Mobilize Crew, Local, per Person	365.00	EA	22.83	0.00	0.00	\$8,332.15	
33010423	Disposable Gloves (Latex)	1,204.00	PAIR	0.21	0.00	0.00	\$246.82	
33010425	Disposable Coveralls (Tyvek)	1,204.00	EA	4.36	0.00	0.00	\$5,251.49	
33190340	Non Haz Drummed Site Waste - Load, Transp, & Landfill Disp (55-Gal Drums)	31.00	EA	200.48	0.00	0.00	\$6,214.99	
33199921	DOT Steel Drum, 55 Gallon	31.00	EA	72.51	0.00	0.00	\$2,247.73	
33220104	Senior Staff Engineer	81.00	HR	0.00	37.21	0.00	\$3,014.16	
33220112	Field Technician	365.00	HR	0.00	14.98	0.00	\$5,466.28	
33240104	Startup Costs	1.00	LS	56,132.04	56,132.04	28,066.02	\$140,330.11	
33420101	Electrical Charge	13,145,160.00	KWH	0.07	0.00	0.00	\$857,064.69	
99999001	Other	1.00	LS	300,000.00	0.00	0.00	\$300,000.00	
Total Element Cost							\$1,336,074.00	

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Phase Element Technology Cost Detail Report (without Markups)

Element: Groundwater Extraction Wells

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	60.00	HR	0.00	21.99	0.00	\$1,319.57	
33220112	Field Technician	195.00	HR	0.00	14.98	0.00	\$2,920.34	
33420101	Electrical Charge	56,344.00	KWH	0.07	0.00	0.00	\$3,673.63	
Total Element Cost							\$7,913.54	

Element: Media Filtration

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	86.00	HR	0.00	21.99	0.00	\$1,891.38	
33220112	Field Technician	539.00	HR	0.00	14.98	0.00	\$8,072.12	
33420101	Electrical Charge	19,994.00	KWH	0.07	0.00	0.00	\$1,303.61	
Total Element Cost							\$11,267.11	

Element: Carbon Adsorption (Liquid)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33132052	Coal-based General Purpose, 8 x 30 Sieve, 900 Iodine, 2,000 - 10,000 Lb	12,000.00	LB	0.94	0.00	0.00	\$11,281.20	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Carbon Adsorption (Liquid)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33132065	Removal, Transport, Regeneration of Spent Carbon, < 2K lb	12,000.00	LB	0.61	0.00	0.00	\$7,267.20	
33220106	Staff Engineer	96.00	HR	0.00	21.99	0.00	\$2,111.31	
33220112	Field Technician	529.00	HR	0.00	14.98	0.00	\$7,922.36	
33420101	Electrical Charge	27,974.00	KWH	0.07	0.00	0.00	\$1,823.90	
Total Element Cost							\$30,405.97	

Element: Coagulation/Flocculation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	153.00	HR	0.00	21.99	0.00	\$3,364.90	
33220112	Field Technician	595.00	HR	0.00	14.98	0.00	\$8,910.78	
33330127	Non-ionic Polymeric Flocculant	6,084.00	LB	3.51	0.00	0.00	\$21,366.40	
33420101	Electrical Charge	78,939.00	KWH	0.07	0.00	0.00	\$5,146.82	
Total Element Cost							\$38,788.90	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33220106	Staff Engineer	196.00	HR	0.00	21.99	0.00	\$4,310.59	
33220112	Field Technician	880.00	HR	0.00	14.98	0.00	\$13,178.97	
33330111	Sulfuric Acid Solution, 750 Lb Drummed Liquid	85.00	EA	75.01	5.72	3.77	\$7,182.36	
33330117	Hydrated Lime, Powdered, Bulk	92.00	TON	98.25	0.01	0.01	\$9,040.02	
33420101	Electrical Charge	73,904.00	KWH	0.07	0.00	0.00	\$4,818.54	
Total Element Cost							\$39,468.68	

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Metals Precipitation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33220106	Staff Engineer	236.00	HR	0.00	21.99	0.00	\$5,190.30	
33220112	Field Technician	890.00	HR	0.00	14.98	0.00	\$13,328.73	
33330111	Sulfuric Acid Solution, 750 Lb Drummed Liquid	85.00	EA	75.01	5.72	3.77	\$7,182.36	
33330117	Hydrated Lime, Powdered, Bulk	92.00	TON	98.25	0.01	0.01	\$9,040.02	
33333011	2 CF Filter Press system w/sludge tanks,pumps,mixers,sludge cart	2.00	EA	32,458.37	0.00	0.00	\$64,916.74	
33420101	Electrical Charge	93,854.00	KWH	0.07	0.00	0.00	\$6,119.28	
Total Element Cost							\$106,715.63	

Element: Advanced Oxidation Processes

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022131	Purgeable Halocarbons (SW 5030B/SW 8021B Halocarbons), Water Analysis	4.00	EA	130.70	0.00	0.00	\$522.82	

Cost Database Date: 2003

Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Advanced Oxidation Processes

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33022132	Purgeable Aromatics (SW 5030B/SW 8021B Aromatics), Water Analysis	4.00	EA	103.85	0.00	0.00	\$415.39	
33120851	7.5 KW Ultraviolet Source High Intensity Lamp	105.00	EA	175.01	0.00	0.00	\$18,376.49	
33132917	Propane	54,250.00	GAL	1.48	0.00	0.00	\$80,094.70	
33220106	Staff Engineer	224.00	HR	0.00	21.99	0.00	\$4,926.39	
33220112	Field Technician	817.00	HR	0.00	14.98	0.00	\$12,235.47	
33330171	Hydrogen Peroxide, 50% Solution, 500 Lb Drums	690.00	EA	890.09	0.00	0.00	\$614,161.41	
33420101	Electrical Charge	542,510.00	KWH	0.07	0.00	0.00	\$35,371.65	
Total Element Cost							\$766,104.32	

Element: Carbon Adsorption (Gas)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33021803	Tentative ID Compunds, GC/MS, Air (30/5041/8260B - TO-14), Air Analysis	2.00	EA	138.01	0.00	0.00	\$276.03	

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Cost Type: User-Defined

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Phase Element Technology Cost Detail Report (without Markups)

Element: Carbon Adsorption (Gas)

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33131942	Coal-based, 4 mm Pellet, for Solvent Recovery 2,000 - 10,000 Lb	12,000.00	LB	0.99	0.00	0.00	\$11,881.20	
33132065	Removal, Transport, Regeneration of Spent Carbon, < 2K lb	12,000.00	LB	0.61	0.00	0.00	\$7,267.20	
33220106	Staff Engineer	119.00	HR	0.00	21.99	0.00	\$2,617.14	
33220112	Field Technician	485.00	HR	0.00	14.98	0.00	\$7,263.41	
33420101	Electrical Charge	71,554.00	KWH	0.07	0.00	0.00	\$4,665.32	
Total Element Cost							\$33,970.30	

Element: Discharge to POTW

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Extended Cost	Cost Override
33220106	Staff Engineer	16.00	HR	0.00	21.99	0.00	\$351.88	
33220112	Field Technician	80.00	HR	0.00	14.98	0.00	\$1,198.09	
33420101	Electrical Charge	18,033.00	KWH	0.07	0.00	0.00	\$1,175.75	
Total Element Cost							\$2,725.72	

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Phase Element Technology Cost Detail Report (without Markups)

Total 1st Year Technology Cost	\$2,373,434.17
Runtime Percent Cost Adjustment	97%
O & M Total Cost	\$2,302,231.14
Total Phase Element Cost	\$2,302,231.14

Cost Database Date: 2003

Cost Type: User-Defined

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